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**United States
Environmental Protection Agency
FISCAL YEAR 2017**

**Justification of Appropriation
Estimates for the Committee
on Appropriations**

EPA-190-K-16-001

February 2016
www.epa.gov/ocfo

Mission

The mission of the Environmental Protection Agency (EPA) is to protect human health and the environment.

Budget In Brief Overview

The mission of the Environmental Protection Agency (EPA) is to protect human health and the environment. We achieve this by striving to keep pollution out of the air we breathe, the water we drink and swim in, and harmful chemicals out of the food we eat and the lands where we build our homes and our communities. The agency's FY 2017 budget supports implementation of the EPA's priorities through focused efforts to develop and implement creative, flexible, cost-effective, common sense and sustainable actions to protect public health, and to safeguard the environment. Today's environmental problems require critical thinking about the complex interactions of environmental pollutants and new tools that promote innovation, incentives and partnerships. The EPA's FY 2017 budget continues to build on the Administration and agency priorities set in FY 2015 and 2016. The FY 2017 budget maintains our focus on our core work, sustains funding necessary to operate the agency effectively, and continues focused efforts in cybersecurity that were started in FY 2016.

The issue of highest importance facing the agency over the next few years will continue to be greenhouse gas (GHG) mitigation and climate change adaptation. The EPA will continue to use a variety of approaches to address these challenges including traditional regulatory tools; innovative market-based techniques; public- and private-sector partnerships; community-based approaches; and programs that encourage voluntary adoption of cost-effective technologies and practices.

The FY 2017 budget reflects the EPA's commitment to increase our engagement with local communities and address what really matters to people, to make a visible difference with new approaches and tools to accelerate environmental progress. The agency will build on our ongoing efforts to enhance the livability and economic vitality of neighborhoods; strengthen our relationship with America's agricultural community; address impacts of climate change; support green infrastructure and resiliency; and reduce air pollution along roadways, railways, and at ports. The EPA will also build on efforts to promote more sustainable, healthier communities by restoring land, developing prevention programs, improving response capabilities, and maximizing the impact of cleanup actions. Central to our strategy is maintaining a strong and effective enforcement program, modernizing and streamlining how we work, and effectively leveraging technology and the efforts of our partners. The EPA will continue to rebuild internal capacity that has been lost through several years of reductions, provide training and information technology support for our workforce, modernize our business process for long-term sustainability and make strategic choices in FY 2017 that support the EPA of the future. We will take into consideration the impacts of our decisions on disadvantaged communities through increased analysis, the most up-to-date science, and enhanced community engagement.

We will work to provide all parts of society—communities, individuals, businesses, and federal, state, local, and Tribal governments—access to usable and understandable information so that they may participate effectively in managing human health and environmental risks. The EPA's work

is guided by the best possible scientific information and a commitment to transparency and accountability.

The EPA is proud to be a good steward of taxpayer resources and to deliver environmental protection efficiently. To learn more about how the agency accomplishes its mission, including information on the organizational structure and regional offices, please visit: <http://www.epa.gov/aboutepa/>.

FY 2017 Annual Performance Plan

The EPA's FY 2017 Annual Performance Plan and Budget of \$8.267 billion is \$127 million above the FY 2016 Enacted budget of \$8.139 billion. The agency will increase its FTE level to 15,078 appropriated FTE, which is an increase of 39.9 FTE above FY 2016. Resources will address our highest priorities and sustain efforts for critical next steps where sound implementation and support are necessary to make progress on priority actions in: addressing climate change and improving air quality; taking action on toxics and chemical safety; protecting water; cleaning up communities and advancing sustainable development; supporting state, Tribal and local partnerships; strengthening the EPA as a forward looking organization; and maintaining core enforcement strength.

We will make steady progress and build on the work we have done with our partners which includes raising awareness that social justice includes environmental justice. We will move beyond planning and into implementation in areas like the Clean Power Plan and water infrastructure finance. Across all our programs, we continue to focus on meaningfully transforming the way we do business to provide greater benefit to all stakeholders, including taking advantage of the advances in technology. In FY 2017, we will continue E-Enterprise, program evaluation, and Lean efforts focused on a new, more results-driven approach that emphasizes customer-facing, integrated, and less burdensome interactions for the regulated community as well as greater efficiency for states and the EPA.

FY 2016-2017 Agency Priority Goals

This budget highlights the EPA's five FY 2016-2017 Agency Priority Goals that advance the agency priorities and the agency's Strategic Plan. Additional information on Priority Goals can be found at <http://www.performance.gov/>.

Reduce greenhouse gas emissions from cars and trucks

Through September 30, 2017, EPA, in coordination with Department of Transportation's fuel economy and fuel consumption standards programs, will implement vehicle and commercial truck GHG standards with a focus on industry compliance to ensure the significant reductions in GHGs and oil consumption called for under the standards are realized. The light-duty and heavy-duty standards for model years 2012-2025 are projected to reduce GHG emissions by more than 6.3 billion metric tons and reduce U.S. oil consumption by more than 12.5 billion barrels over the lifetime of the affected vehicles and commercial trucks.

Advance resilience in the nation's water infrastructure, while protecting public health and the environment, particularly in high-risk and vulnerable communities.

By September 30, 2017, EPA will provide technical assistance and other tools to 25 urban communities to advance green infrastructure planning and implementation efforts to increase local climate resilience and water quality protections in stormwater infrastructure. EPA will also provide tools and training for 1,000 operators of small water utilities to improve resilience in drinking water, wastewater, and stormwater systems. Trainings will be targeted based on regional threats, such as drought and flooding.

Clean up contaminated sites to enhance the livability and economic vitality of communities.

By September 30, 2017, an additional 18,600 sites will be made ready for anticipated use (RAU), thereby protecting Americans' health and the environment, one community at a time.

Assess and reduce risks posed by chemicals and promote the use of safer chemicals in commerce.

By September 30, 2017, the EPA will complete more than 3,400 assessments of pesticides and other commercially available chemicals to evaluate risks they may pose to human health and the environment. These assessments are essential in determining whether products containing these chemicals can be used safely for commercial, agricultural, and/or industrial uses. For example, assessments can help determine the potential for chemicals to disrupt endocrine systems or to pose risks to honey bees and other pollinators by outdoor use of pesticides.

Strengthen environmental protection through business process improvements enabled by joint governance and technology.

By September 30, 2017, the EPA will reduce burden by one million hours, add five new functionalities to the E-Enterprise Portal, and begin development on two projects selected through E-Enterprise Leadership Council joint governance.

FY 2017 Funding Priorities

Addressing Climate Change and Improving Air Quality

One of the most significant challenges for current and future generations is the threat from a changing climate. The issues of highest importance facing the agency over the next few years will continue to be GHG mitigation and climate change adaptation. The FY 2017 budget prioritizes climate change and reflects the President's 2013 Climate Action Plan. The Clean Power Plan is the top priority for the EPA and the central element of the U.S. domestic climate mitigation agenda. The agency is working differently by utilizing innovative approaches and providing opportunities for greater flexibility and enhanced partnership with the states. The recently finalized carbon pollution standards for new and existing power plants under Sections 111(b) and 111(d) under the Clean Air Act are an example.

The President's Climate Action Plan frames the EPA's strategies to address climate change, and among other initiatives, tasks the EPA with addressing GHGs from the transport sector. The next phase of light- and heavy-duty vehicle standards will build upon the success of the current standards and will offer further opportunities to reduce GHG emissions, decrease the nation's oil use, and benefit consumers and business by reducing the cost of transporting. The agency also committed to perform, in coordination with the National Highway Traffic Safety Administration (NHTSA) and the California Air Resources Board (CARB), a Midterm Evaluation of the Model Year 2022-2025 light-duty GHG standards. To support the Midterm Evaluation, the agency will perform a comprehensive feasibility evaluation of advanced technologies in FY 2017.

While we continue to make progress addressing GHG emissions, further efforts are required to put the country on an emissions trajectory consistent with the President's long-term climate goals. There are significant non-regulatory opportunities for GHG mitigation that can be achieved by leveraging synergies across existing EPA voluntary activities in waste, water, and pollution prevention.

As required by the Clean Air Act the EPA will continue to administer the National Ambient Air Quality Standards (NAAQS) by taking federal oversight actions, when necessary, and by developing guidance for use by state, tribal, and local air agencies to ensure continued health and welfare protection. In FY 2017, the agency will continue a strong emphasis on supporting communities in their efforts to combat localized effects of air pollution.

Making a Visible Difference in Communities Across the Country

Communities face multiple pollution problems and are looking for holistic solutions. To accelerate efforts to protect communities, the agency is providing resources for community outreach programs in FY 2017 to support efforts that include helping meet community needs in capacity building, planning, and implementation. The EPA supports the goals of urban, suburban and rural communities to grow in ways that improve the environment, human health and quality of life for their residents. With the support of partners across all levels of government, communities can do this using approaches that also strengthen the economy, help adapt to climate change, improve resiliency to disasters, use public resources more efficiently, revitalize neighborhoods, and improve access to jobs and amenities. Through its cleanup programs, the EPA will continue to use approaches that promote sustainable healthier communities by restoring the land, developing prevention programs, improving response capabilities and maximizing the impact of cleanup actions. The EPA has made it a priority to work at the community level along with other federal agencies, states and other stakeholders to improve the health of American families and protect the environment all across the country. We will continue to build on these relationships in FY 2017.

Adaptation and resiliency to the effects of climate change constitutes a significant emerging challenge for communities. The agency will continue to engage communities to be full partners in agency programs that make a visible difference in their community by working to provide holistic central mechanisms to support, assist, and engage with disadvantaged communities and vulnerable populations, including Tribal populations, rural communities and children. Decisions to address climate change impacts will need to be made by local leaders. However, many small communities lack the capacity to build resilience to climate change and have expressed a strong need for

technical assistance to integrate climate adaptation planning into their work. In FY 2017, \$2.9 million is included to conduct resiliency planning exercises and capacity-building efforts in Alaska Native Villages. However, the EPA does not have the staff to directly provide technical assistance to every community. In FY 2017 the agency is working to enhance a set of flexible community-oriented grants that can provide access to the expertise communities need as they address environmental aspects of local issues. The FY 2017 budget includes over \$9 million for these efforts. In addition, the Environmental Justice (EJ) program will continue to emphasize fostering greater collaboration and leveraging of resources across EPA and the rest of the federal family. Supporting the creation of such collaborations in vulnerable and overburdened communities will ensure that they attain the necessary capacity and skills to fully benefit from specialized agency programs. Within the EJ program, the agency will increase funding of \$5.0 million to build community capacity and \$1.0 million for technical assistance and training.

Under local planning and zoning codes that account for the environmental impacts of development, the private sector can more easily construct market-ready “green” buildings serving a range of housing needs. Communities can benefit from tools, technology and research that better engage citizens and inform local decision making to support smart and sustainable growth, including the significant long-term decisions they face for drinking water and water infrastructure. By making sustainable infrastructure investments, communities can successfully build innovative and functional systems on neighborhood streets and sidewalks to deal with the run-off from stormwater and still provide easy access for pedestrians, bicyclists, on-street parking and other beneficial uses. In FY 2017, the agency will continue to allocate \$4.9 million for advanced monitoring technology that will empower communities in making these local decisions.

Many communities across the country regularly face risks posed by intentional and accidental releases of hazardous substances into the environment. Approximately 166 million people (roughly 53 percent of the U.S. population), including 55 percent of all children in the U.S. under the age of five, live within three miles of a Superfund, Resource Conservation and Recovery Act (RCRA) Corrective Action, or Brownfields site that received EPA funding. This population is more likely to be minority, lower income, and linguistically isolated, and less likely to have a high school education in comparison to the U.S. population as a whole. In FY 2017, the agency is investing over \$1.32 billion to continue to apply the most effective approaches to preserve and restore land by developing and implementing prevention programs, improving response capabilities, and maximizing the effectiveness of response and cleanup actions under RCRA, Superfund, Leaking Underground Storage Tanks (LUST) and other authorities. This strategy will help ensure that human health and the environment are protected and that land is returned to beneficial use in the most effective way.

Leveraging Technology

In FY 2017, the EPA will continue to modernize the business of environmental protection through the E-Enterprise strategy – jointly governed by states and the EPA – which is rethinking how government agencies deliver environmental protection. Under this strategy, the agency will continue streamlining its business processes and systems to reduce reporting burden on states and regulated facilities, and improve the effectiveness and efficiency of regulatory programs for the EPA, states and tribes. Within the E-Enterprise business strategy context, the agency will continue

to pilot projects, such as the E-Enterprise Portal and Federated Identity Management prototypes, that transform an array of disjointed but similar functions in states and tribes to a more coordinated and open platform of services to make environmental data reporting, reporting and sharing faster, simpler and less expensive.

The EPA has taken steps to transform information management, where tools and technologies will greatly improve the EPA's internal analytic capability and transparency projects – with the added benefit of allowing the public to do much more with the EPA's data. This is not just an effort to save money; the EPA is looking toward the future for ways to better serve the American people. These efforts include new and enhanced ways to gather data, conduct analysis, perform data visualization and use “big data” to explore and address environmental, business, and public policy challenges. By looking at environmental problems and opportunities in a holistic manner, cross-media impacts can be identified, leading to creative and more efficient solutions. Across the agency's IT budgeting, acquisition, portfolio review, and governance processes, we have adopted practices that improve delivery of capability to users, driven down lifecycle costs, and ensured proper leveraging of shared services in compliance with the Federal Information Technology Acquisition Reform Act (FITARA).

We remain focused on the need to address the emerging issue of cybersecurity. We will build on and sustain work begun in FY 2016, significantly enhancing foundational capabilities and continuing to close gaps in the security architecture. In addition, these resources will enable the agency to improve the capabilities for detecting, responding to and protecting against attacks on data stores, capturing and integrating threat intelligence sources, and developing mobile device controls.

Leveraging technology will enable the agency to move from a heavily paper-based evidence gathering process to a digitally-based rapid electronic process. The vision is to better identify patterns of problems, be more efficient and effective in data collection and records management, increase transparency on programmatic and compliance status and allow for quicker responses where appropriate, while improving accountability across the full spectrum of the agency's programs.

Maintaining and Strengthening a Forward Looking Environmental Protection Organization

In FY 2017, the agency will continue to seek opportunities to develop and enhance the EPA as a Forward Looking Organization. To address ongoing resource challenges and new and existing environmental priorities, the EPA must continue to transform itself through revising business practices utilizing technology and ensuring its workforce is properly equipped and trained.

FY 2017 efforts will be designed to further develop the use of Lean methods, tools and techniques throughout the organization and within the co-regulator community, building upon resources allocated in FY 2016. The agency also is making necessary investments to improve internal IT services to support productivity and address the issue of cybersecurity. It is especially important to instill a culture of continuous business process improvement (using Lean principles, for example) throughout the agency. Employees at all levels at the EPA will be equipped and empowered to use Lean methods for eliminating non-value added activities so that they can focus

more directly on the tasks at hand – from hiring and procurement to permitting and enforcement – that support the EPA’s mission of protecting the public’s health and the environment.

Since FY 2012 the EPA has released over 250 thousand square feet of office space nationwide, resulting in a cumulative annual rent avoidance of nearly \$9.2 million across all appropriations. These savings help offset the EPA’s escalating rent and security costs. Consolidations and moves also are planned for Potomac Yard North at Headquarters and a set of Regional Offices that will allow the EPA to release another estimated 336 thousand square feet of office space. For FY 2017, the agency is requesting \$247.6 million for rent, \$32.6 million for utilities, and \$49.1 million for security. The EPA will continue to explore opportunities to reconfigure workplaces and initiate space optimization projects with the potential for the greatest long-term cost and energy savings. The agency is implementing a long-term space consolidation plan that will reduce the number of occupied facilities, consolidate space within remaining facilities, and reduce square footage wherever practical.

The agency will continue to address concerns expressed by employees through the Employee Viewpoint Survey (EVS) by directing additional resources and further developing labor and employee relations efforts through high quality management-level training.

Taking Action on Toxics and Chemical Safety

Chemicals and toxic substances are ubiquitous in our everyday lives and products. They are used in the production of everything from our homes and cars to the cell phones we carry and the food we eat. Chemicals often are released into the environment as a result of their manufacture, processing, use, and disposal. Vulnerable populations, including low-income, minority, and indigenous populations, as well as children, may be disproportionately affected by, and thus particularly at risk from exposure to chemicals. Keeping communities safe and healthy requires action to reduce risks associated with exposure to chemicals in commerce, our indoor and outdoor environments, and products and food. The \$67.2 million provided in FY 2017 for the Chemical Risk Review and Reduction Program will allow the EPA to sustain its success in managing the potential risks to human health and the environment and will provide regional staff to work on TSCA issues.

In FY 2017, the EPA’s pesticide licensing program will continue to evaluate new pesticides before they reach the market and ensure that pesticides already in commerce are safe when used in accordance with the label as directed by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Federal Food, Drug, and Cosmetic Act (FFDCA), and the Food Quality Protection (FQPA). The EPA will register pesticides in a manner that protects consumers, pesticide users, workers who may be exposed to pesticides, children, and other sensitive populations. The program also will continue the registration review process for older pesticides that tend to have more significant risks. For all pesticides in review, the EPA will evaluate potential impacts on the environment with particular attention to endangered species and the effects of pesticides on honey bees and other pollinators.

The EPA has a long history of collaboration to address a wide range of domestic and global environmental issues. Environmental progress in cooperation with international partners can

catalyze progress toward protecting our domestic environment. Examples include: ensuring that trade-related activities sustain environmental protection; enhancing the ability of our trading partners to protect their environments and develop in a sustainable manner; and enhancing opportunities through effective consultation and collaboration on environmental issues of mutual interest. To advance these efforts, the EPA continues to focus on the following international priorities: building strong environmental institutions and legal structures; climate change adaptation and mitigation; improving air quality; expanding access to clean water; reducing exposure to toxic chemicals; and cleaning up e-waste.

Protecting Water: A Precious, Limited Resource

In FY 2017, the EPA will continue the complex work necessary to implement the Water Infrastructure Finance and Innovation Act (WIFIA), by beginning to finance projects for large, innovative drinking water and wastewater infrastructure projects of regional or national significance. WIFIA funding of \$20 million is requested to make begin making these loans, including covering administrative costs.

While much progress to improve water quality has been made over the last two decades, America's waters remain imperiled from increased demand, land use practices, population growth, aging infrastructure, and the impacts of climate change. Preserving and restoring the integrity of these waters is critical not only for protecting human health and the environment but also to property values, tourism, and commercial and recreational fishing, hunting, and other economic considerations. The EPA will continue its partnerships with other federal agencies, states, tribes, municipalities, and private parties to address these complex challenges through a combination of traditional and innovated strategies, such as promoting green infrastructure and sustainable solutions, building resiliency, developing new targeting tools, and developing and implementing nutrient limits, along with the agency's core water quality work.

Dependable, available drinking water and sanitation in communities depends on working, modern infrastructure, but leaking water collection and distribution systems, and inadequate drinking water and wastewater treatment continue to plague municipalities across the country. In FY 2017 the agency is requesting \$2 billion for the Clean Water and Drinking Water State Revolving Funds (SRFs). Since their inception, the SRFs have been funded at over \$62 billion, with over \$22 billion of that investment occurring since 2009. It is estimated that between 13,000 and 24,000 jobs result from every billion dollars in SRF funding. The SRFs will continue to provide public health and environmental benefits along with the positive employment and economic benefits of infrastructure investment.

New Era of State, Tribal, and Local Partners Partnership

Supporting our state and tribal partners, the primary implementers of environmental programs on the ground, is a long-held priority of the EPA. Funding to states and tribes in the State and Tribal Assistance Grants (STAG) account continues to be the largest percentage of the EPA's budget request, at 39.7 percent in FY 2017. The FY 2017 budget increases Categorical Grants by \$77 million from the FY 2016 enacted budget. This reflects the agency's recognition of and

commitment to supporting our partners and leveraging limited resources to deliver environmental protection to all Americans.

In FY 2017, the EPA's programs and activities will continue to support strategic partnerships between key implementers of environmental programs through the E-Enterprise business strategy. An integral part of an agencywide effort to launch a new era of state, local, Tribal, and international partnerships, E-Enterprise is jointly governed by states and the EPA to modernize government agencies' delivery of environmental protection in the U.S. The FY 2017 budget includes \$15.7 million in funding to support states' role in E-Enterprise efforts including supporting coordination and governance for the Environmental Council of the States and state grants to provide broader state participation in E-Enterprise joint governance and implementation of projects resulting in greater efficiency across the environmental enterprise.

Eliminated Programs

The EPA continues to examine its programs to find those that have served their purpose and accomplished their mission. The FY 2017 President's Budget eliminates a number of programs totaling \$85.6 million including Beaches Protection categorical grants, multipurpose categorical grants, State Indoor Radon Grants, Targeted Airshed Grants, and Water Quality Research and Support Grants.

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APPROPRIATION SUMMARY

Budget Authority
(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud
Science & Technology	\$728,592.4	\$734,648.0	\$754,184.0
Environmental Program & Management	\$2,631,415.9	\$2,635,279.0	\$2,852,893.0
Inspector General	\$42,542.3	\$41,489.0	\$51,527.0
Building and Facilities	\$41,284.0	\$42,317.0	\$52,078.0
Inland Oil Spill Programs	\$18,269.8	\$18,209.0	\$25,410.0
<i>Superfund Program</i>	\$1,145,946.9	\$1,065,380.0	\$1,104,715.0
<i>IG Transfer</i>	\$9,959.3	\$9,939.0	\$8,778.0
<i>S&T Transfer</i>	\$19,738.4	\$18,850.0	\$15,496.0
Hazardous Substance Superfund	\$1,175,644.6	\$1,094,169.0	\$1,128,989.0
Leaking Underground Storage Tanks	\$92,747.9	\$91,941.0	\$94,285.0
State and Tribal Assistance Grants	\$3,573,153.5	\$3,518,161.0	\$3,280,400.0
Hazardous Waste Electronic Manifest System Fund	\$1,468.6	\$3,674.0	\$7,433.0
Water Infrastructure Finance and Innovation Fund	\$0.0	\$0.0	\$20,000.0
<i>SUB-TOTAL, EPA</i>	<i>\$8,305,119.0</i>	<i>\$8,179,887.0</i>	<i>\$8,267,199.0</i>
Rescission of Prior Year Funds	\$0.0	(\$40,000.0)	\$0.0
<i>SUB-TOTAL, EPA (INCLUDING RESCISSIONS)</i>	<i>\$8,305,119.0</i>	<i>\$8,139,887.0</i>	<i>\$8,267,199.0</i>
Hurricane Sandy Supplemental	\$686.0	\$0.0	\$0.0
TOTAL, EPA	\$8,305,805.0	\$8,139,887.0	\$8,267,199.0

*For ease of comparison, Superfund transfer resources for the audit and research functions are shown in the Superfund account.

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Full-time Equivalents (FTE)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud
Science & Technology	2,102.1	2,198.2	2,202.2
Science and Tech. - Reim	0.2	1.5	1.5
Environmental Program & Management	9,205.3	9,759.7	9,790.6
Envir. Program & Mgmt - Reim	29.4	0.0	0.0
Inspector General	233.9	268.0	268.0
Inland Oil Spill Programs	81.1	98.3	98.3
Oil Spill Response - Reim	8.3	0.0	0.0
<i>Superfund Program</i>	2,448.7	2,523.4	2,523.4
<i>IG Transfer</i>	52.8	50.1	50.1
<i>S&T Transfer</i>	69.5	71.6	71.6
Hazardous Substance Superfund	2,571.0	2,645.1	2,645.1
Superfund Reimbursables	108.5	17.5	8.5
Leaking Underground Storage Tanks	49.9	54.1	54.1
State and Tribal Assistance Grants	3.2	0.0	0.0
WCF-Reimbursable	152.0	181.0	183.0
FIFRA	96.6	145.0	145.0
Pesticide Registration Fund	69.6	0.0	0.0
Hazardous Waste Electronic Manifest System Fund	7.2	7.9	7.9
Water Infrastructure Finance and Innovation Fund	0.0	0.0	12.0
UIC Injection Well Permit BLM	3.0	0.0	0.0
Deepwater Horizon Natural Resource Damage Assessment	1.7	0.0	0.0
SUB-TOTAL, EPA	14,723.0	15,376.3	15,416.2
Hurricane Sandy Supplemental	2.0	0.0	0.0
TOTAL, EPA	14,725.0	15,376.3	15,416.2

	FY 2015 Actuals		FY 2016 Enacted		FY 2017 Pres Bud

*For ease of comparison, Superfund transfer resources for the audit and research functions are shown in the Superfund account.

**Includes Sandy Supplemental and reimbursable FTE.

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GOAL, APPROPRIATION SUMMARY

Budget Authority
(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud
Addressing Climate Change and Improving Air Quality	\$1,003,119.5	\$1,063,869.8	\$1,131,738.6
Science & Technology	\$249,851.0	\$250,218.6	\$269,062.8
Environmental Program & Management	\$443,450.3	\$452,532.9	\$542,987.0
Inspector General	\$5,585.4	\$5,855.0	\$7,675.9
Building and Facilities	\$10,063.6	\$10,333.7	\$12,798.3
Hazardous Substance Superfund	\$2,857.6	\$3,074.4	\$3,491.1
State and Tribal Assistance Grants	\$291,311.7	\$341,855.1	\$295,723.6
Protecting America's Waters	\$4,075,403.1	\$3,980,755.0	\$3,745,863.9
Science & Technology	\$135,348.7	\$140,281.7	\$137,828.9
Environmental Program & Management	\$991,580.4	\$986,104.7	\$972,306.4
Inspector General	\$26,308.9	\$25,258.1	\$29,559.1
Building and Facilities	\$6,832.9	\$7,103.4	\$8,737.4
State and Tribal Assistance Grants	\$2,915,332.2	\$2,822,007.1	\$2,577,432.1
Water Infrastructure Finance and Innovation Fund	\$0.0	\$0.0	\$20,000.0
Cleaning Up Communities and Advancing Sustainable Development	\$1,853,602.9	\$1,769,551.8	\$1,909,804.8
Science & Technology	\$152,514.3	\$156,608.3	\$149,906.5
Environmental Program & Management	\$326,781.8	\$327,461.3	\$385,918.4
Inspector General	\$5,179.4	\$5,044.3	\$7,120.1
Building and Facilities	\$7,717.9	\$7,853.5	\$9,662.1
Inland Oil Spill Programs	\$15,611.7	\$15,568.8	\$22,501.5
Hazardous Substance Superfund	\$944,948.0	\$866,249.1	\$891,928.5
Leaking Underground Storage Tanks	\$92,109.9	\$91,263.3	\$93,548.6
State and Tribal Assistance Grants	\$307,271.4	\$295,829.1	\$341,786.2
Hazardous Waste Electronic Manifest System Fund	\$1,468.6	\$3,674.0	\$7,433.0

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud
Ensuring the Safety of Chemicals and Preventing Pollution	\$627,137.7	\$623,248.6	\$679,606.9
Science & Technology	\$174,375.7	\$171,406.3	\$179,970.2
Environmental Program & Management	\$398,000.0	\$397,553.2	\$439,118.2
Inspector General	\$2,991.8	\$2,908.1	\$3,885.1
Building and Facilities	\$11,545.6	\$11,789.3	\$14,461.3
Hazardous Substance Superfund	\$6,827.1	\$6,517.8	\$6,039.4
State and Tribal Assistance Grants	\$33,397.5	\$33,073.9	\$36,132.7
Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance	\$746,541.7	\$742,461.8	\$800,184.9
Science & Technology	\$16,502.7	\$16,132.9	\$17,415.6
Environmental Program & Management	\$471,707.2	\$471,626.8	\$512,563.0
Inspector General	\$2,476.8	\$2,423.5	\$3,286.8
Building and Facilities	\$5,124.0	\$5,237.1	\$6,419.0
Inland Oil Spill Programs	\$2,658.1	\$2,640.2	\$2,908.5
Hazardous Substance Superfund	\$221,529.9	\$218,327.7	\$227,530.1
Leaking Underground Storage Tanks	\$638.0	\$677.7	\$736.4
State and Tribal Assistance Grants	\$25,905.1	\$25,395.8	\$29,325.5
<i>Sub-Total</i>	<i>\$8,305,805.0</i>	<i>\$8,179,887.0</i>	<i>\$8,267,199.0</i>
Rescission of Prior Year Funds	\$0.0	(\$40,000.0)	\$0.0
Total	\$8,305,805.0	\$8,139,887.0	\$8,267,199.0

* 2015 actuals include Sandy Supplemental

**Environmental Protection Agency
FY 2017 Annual Performance Plan and Congressional Justification**

GOAL, APPROPRIATION SUMMARY

Authorized Full-time Equivalents (FTE)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud
Addressing Climate Change and Improving Air Quality	2,415.1	2,597.1	2,627.6
Science & Technology	666.7	701.0	703.0
Science and Tech. - Reim	0.0	1.5	1.5
Environmental Program & Management	1,667.9	1,802.4	1,827.3
Envir. Program & Mgmt - Reim	2.0	0.0	0.0
Inspector General	30.7	37.8	39.9
Hazardous Substance Superfund	12.1	12.4	12.5
WCF-REIMB	35.5	41.9	43.3
Deepwater Horizon Natural Resource Damage Assessment	0.1	0.0	0.0
FIFRA	0.2	0.0	0.0
Protecting America's Waters	3,034.5	3,181.4	3,167.8
Science & Technology	438.4	453.1	452.6
Science and Tech. - Reim	0.2	0.0	0.0
Environmental Program & Management	2,398.8	2,527.4	2,512.1
Envir. Program & Mgmt - Reim	10.3	0.0	0.0
Inspector General	144.6	163.2	153.7
State and Tribal Assistance Grants	5.2	0.0	0.0
WCF-REIMB	32.0	37.9	37.5
UIC Injection Well Permit BLM	3.0	0.0	0.0
Deepwater Horizon Natural Resource Damage Assessment	1.1	0.0	0.0
Water Infrastructure Finance and Innovation Fund	0.0	0.0	12.0
FIFRA	0.8	0.0	0.0
Cleaning Up Communities and Advancing Sustainable Development	3,727.6	3,809.0	3,813.0
Science & Technology	422.5	419.9	421.1
Environmental Program & Management	1,405.8	1,507.9	1,515.0

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud
Envir. Program & Mgmt - Reim	4.1	0.0	0.0
Inspector General	28.5	32.6	37.0
Inland Oil Spill Programs	66.9	84.0	84.0
Oil Spill Response - Reim	8.3	0.0	0.0
Hazardous Substance Superfund	1,609.8	1,656.6	1,656.3
Superfund Reimbursables	100.1	17.5	8.5
Leaking Underground Storage Tanks	47.1	50.7	50.7
WCF-REIMB	26.8	31.9	32.5
Deepwater Horizon Natural Resource Damage Assessment	0.4	0.0	0.0
FIFRA	0.2	0.0	0.0
Hazardous Waste Electronic Manifest System Fund	7.2	7.9	7.9
Ensuring the Safety of Chemicals and Preventing Pollution	2,296.2	2,391.0	2,405.0
Science & Technology	504.4	548.4	549.7
Environmental Program & Management	1,541.8	1,614.3	1,625.5
Envir. Program & Mgmt - Reim	10.3	0.0	0.0
Inspector General	16.4	18.8	20.2
Hazardous Substance Superfund	20.0	19.1	19.0
WCF-REIMB	38.2	45.4	45.6
Pesticide Registration Fund	69.6	0.0	0.0
Rereg. & Exped. Proc. Rev Fund	95.3	145.0	145.0
Deepwater Horizon Natural Resource Damage Assessment	0.1	0.0	0.0
FIFRA	0.1	0.0	0.0
Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance	3,251.5	3,397.8	3,402.8
Science & Technology	70.1	75.9	75.9
Environmental Program & Management	2,191.0	2,307.7	2,310.6
Envir. Program & Mgmt - Reim	2.8	0.0	0.0
Inspector General	13.6	15.7	17.1
Inland Oil Spill Programs	14.2	14.3	14.3
Hazardous Substance Superfund	929.0	956.9	957.3

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud
Superfund Reimbursables	8.4	0.0	0.0
Leaking Underground Storage Tanks	2.8	3.4	3.4
WCF-REIMB	19.4	23.9	24.2
Deepwater Horizon Natural Resource Damage Assessment	0.0	0.0	0.0
FIFRA	0.1	0.0	0.0
Total	14,725.0	15,376.3	15,416.2

* 2015 actuals include Sandy Supplemental

**Environmental Protection Agency
FY 2017 Annual Performance Plan and Congressional Justification**

Goal 1: Addressing Climate Change and Improving Air Quality

Reduce greenhouse gas emissions and develop adaptation strategies to address climate change, and protect and improve air quality

STRATEGIC OBJECTIVES:

- Restore and protect the earth's stratospheric ozone layer and protect the public from the harmful effects of ultraviolet (UV) radiation.
- Minimize the threats posed by climate change by reducing greenhouse gas emissions and taking actions that help to protect human health and help communities and ecosystems become more sustainable and resilient to the effects of climate change.
- Achieve and maintain health- and welfare-based air pollution standards and reduce risk from toxic air pollutants and indoor air contaminants.
- Minimize releases of radioactive material and be prepared to minimize exposure through response and recovery actions should unavoidable releases occur.

GOAL, OBJECTIVE SUMMARY

Budget Authority
Full-time Equivalents
(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Addressing Climate Change and Improving Air Quality	\$1,003,119.5	\$1,063,869.8	\$1,131,738.6	\$67,868.8
Improve Air Quality	\$768,402.1	\$818,285.9	\$794,819.5	(\$23,466.4)
Minimize Exposure to Radiation	\$33,771.8	\$34,701.1	\$39,644.1	\$4,943.0
Address Climate Change	\$183,505.3	\$194,196.4	\$279,821.2	\$85,624.8
Restore and Protect the Ozone Layer	\$17,440.4	\$16,686.4	\$17,453.8	\$767.4
Total Authorized Workyears	2,415.1	2,597.1	2,627.6	30.5

Goal 1: Addressing Climate Change and Improving Air Quality

Strategic Goal - Reduce greenhouse gas emissions and develop adaptation strategies to address climate change, and protect and improve air quality.

Introduction

To protect public health and the environment, the EPA is dedicated to protecting and improving the quality of the nation's air. Significant air pollution concerns include climate change, outdoor and indoor air quality, stratospheric ozone depletion, and radiation exposure. To address these concerns, the agency continues to partner with states, tribes, and local governments to implement programs and standards.

Scientific consensus shows that as a result of human activities, greenhouse gas (GHG) concentrations in the atmosphere are at record high levels. Data show that the Earth has been warming over the past 100 years with the steepest increase in warming evident in recent decades.¹ Consequences of human-induced climate change pose immediate and significant concerns, including rising sea levels that threaten coastal cities in the U.S. and around the world, increasing ocean temperatures, acidification, which affects the oceans' ability to sustain life, and changing precipitation patterns which can lead to more frequent flooding as well as more intense droughts and greater numbers of wildfires. Severe heat waves and extreme weather events are projected to intensify and occur more frequently leading to mortalities and sickness. Eventually, more Americans are likely to be affected by certain diseases that thrive—both outdoors and indoors—in areas with higher temperatures and greater precipitation, including pest-borne diseases, as well as food and water-borne pathogens. The costs of these climate change impacts include increased hospital visits, respiratory and cardiovascular diseases, and even premature death—especially for certain vulnerable populations like the elderly, and children.

Since passage of the Clean Air Act Amendments (CAAA) in 1990, nationwide air quality has improved significantly. From 2003 to 2014, population-weighted ambient concentrations of fine particulate matter and ozone have decreased 29 percent and 18 percent, respectively. However, even with this progress, in 2014, approximately 57 million people in the U.S. lived in counties with air that did not meet health-based standards for at least one pollutant. Long-term exposure to elevated levels of certain air pollutants has been associated with increased risk of cancer, premature mortality, and damage to the immune, neurological, reproductive, cardiovascular, and respiratory systems. Short-term exposure to elevated levels of certain air pollutants can exacerbate asthma and lead to other adverse health effects and economic costs, such as missed workdays.

The air issues of highest importance facing the agency over the next few years will continue to be GHG mitigation and climate change adaptation, and ozone and particulate air pollution. The EPA uses a variety of approaches to address these challenges including traditional regulatory tools; innovative market-based techniques, public- and private-sector partnerships, community-based approaches, and programs that encourage voluntary adoption of cost-effective technologies and practices.

¹ US EPA. 2014 Climate Change Indicators in the United States, 2014 <http://www.epa.gov/climatechange/pdfs/climateindicators-full-2014.pdf>.

The EPA will continue to address the impacts of climate change through careful, cost-effective rulemaking and partnership programs that focus on the largest entities and encourage businesses and consumers to limit unnecessary GHG emissions. The President’s Climate Action Plan frames the EPA’s strategies to address climate change, and, among other initiatives, tasks the EPA with addressing GHGs from power plants. On August 3, 2015, the EPA finalized rules that will lower carbon pollution from existing fossil fuel-fired power plants and guidelines to help the states develop their plans for meeting their individual goals. The standards for existing sources will result in carbon pollution from the power sector that is 32 percent lower by 2030 (compared to 2005 emission levels).² In 2013, the electricity sector was the largest source of U.S. GHG emissions, accounting for about one-third of the U.S. total.

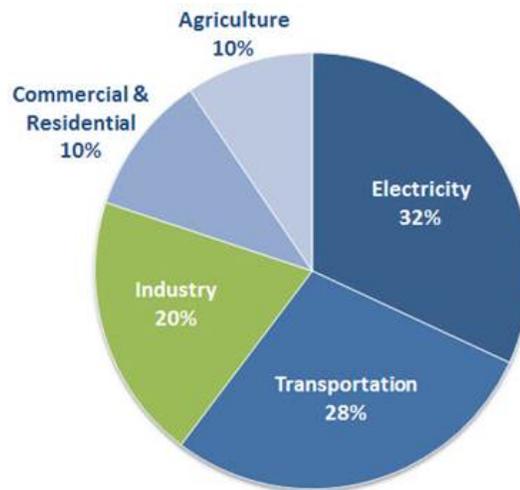


Figure 1: 2013 Total U.S. Greenhouse Gas Emissions by Sector³

The EPA also finalized rulemakings setting carbon standards for new and modified fossil fuel power plants. With finalization of the rules and guidelines, the EPA will continue to engage in intensive and extensive outreach to states, stakeholders, and the public and provide essential technical guidance to the states as they develop their plans.

The transportation sector is the second largest source of greenhouse gases, and the EPA has made great progress creating a foundation for continuous improvement in emissions reduction technology. Working with the National Highway Transportation Safety Administration (NHTSA), the EPA proposed Phase 2 GHG and fuel efficiency standards for heavy-duty vehicles in 2015. The EPA, also in coordination with NHTSA, supports implementation and compliance with the GHG emission standards for light-duty and heavy-duty vehicles including the NHTSA Corporate Average Fuel Economy (CAFE) standards that have already been adopted. The national program of fuel economy and GHG standards for model year 2012 through 2025 light-duty and heavy-duty vehicles will save American consumers about \$1.7 trillion, decrease the nation’s fuel consumption by over 12 billion barrels of oil and prevent 6.3 billion metric tons of GHG emissions over the lifetimes of the affected vehicles and commercial trucks sold through model year 2025, an FY

² <http://www2.epa.gov/cleanpowerplan/clean-power-plan-existing-power-plants>.

³ <http://www.epa.gov/climatechange/ghgemissions/sources.html>.

2014-2015 Agency Priority Goal. In model year 2025, the EPA and NHTSA standards will require average fuel economy for cars and light trucks of approximately 54.5 miles to the gallon, a significant increase from the model year 2014 average of 31.8 miles to the gallon.⁴ The EPA also will continue to implement the Renewable Fuels program, which requires an increasing percentage of vehicle fuel sold in the U.S. to be from renewable sources.

Under the Climate Action Plan, in March 2014 the Administration released the Strategy to Reduce Methane Emissions and, in January 2015, announced a goal to cut methane emissions from the oil and gas sector. The EPA and other federal agencies are pursuing a series of steps to put the U.S. on a path toward achieving a 40 to 45 percent reduction in methane emissions from 2012 levels by the year 2025. These actions include proposed updates to the agency's New Source Performance Standards (NSPS) for the oil and natural gas sector to regulate methane and address several previously unregulated sources, draft guidelines for states having to implement Reasonably Available Control technology for the oil and natural gas sector, and two rules which clarify and streamline air permitting requirements in states and Indian country, all issued August 2015. The EPA also proposed updates to its NSPS and Emission Guidelines for existing sources for the landfills source category in August 2015. These actions, when finalized, will achieve significant reductions in methane emissions over the next decade.

The EPA also operates several partnership programs that promote cost-effective reductions of methane. As part of the overall strategy to reduce methane, the EPA developed a significantly expanded partnership program, the Natural Gas STAR Methane Challenge, to offer an opportunity for U.S. oil and gas companies to demonstrate additional emission reductions commitments. These actions complement EPA efforts to quantify oil and gas methane emissions, through the U.S. GHG Inventory and the U.S. Greenhouse Gas Reporting Program. Also, the AgSTAR program is a collaboration between the EPA and the U.S. Department of Agriculture that focuses on methane emission reductions from livestock waste management operations through biogas recovery systems, and is working to support the Biogas Opportunities Roadmap highlighted in the White House Strategy to Reduce Methane Emissions. The Coalbed Methane Outreach Program promotes opportunities to profitably recover and use methane emitted from coal mining activities. The Landfill Methane Outreach Program promotes abatement and energy recovery of methane emitted from landfills.

The EPA will continue to promote the use of low global warming potential (GWP) alternatives to hydrofluorocarbons (HFCs) through application of the Significant New Alternatives Policy (SNAP) program. Specifically, the EPA will use authority under section 612 of the Clean Air Act (CAA) to continuously update the SNAP list, as well as to list more environmentally friendly alternatives with lower GWPs, and will continue to review existing SNAP listings to consider whether additional changes to the status of alternatives is appropriate.

The EPA will continue to implement non-regulatory climate change programs that work with key sectors to reduce greenhouse gases and facilitate energy-efficiency improvements. As an example, the ENERGY STAR program helped promote investments in energy-efficient technologies and practices that prevented more than an estimated 300 million metric tons of GHGs, resulting in

⁴ US EPA. Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975-2013 <http://www.epa.gov/otaq/fetrends.htm>.

savings of \$34 billion on Americans' annual utility bills in 2014 alone.⁵ ENERGY STAR Most Efficient is a recent program innovation to help consumers identify and advance highly efficient products in the marketplace. This effort identifies the most efficient products among those that qualify for the ENERGY STAR recognition in particular product categories. Product categories are selected and recognition criteria established to ensure that products receiving this recognition demonstrate efficiency performance that is truly exceptional, inspirational, or leading edge—consistent with the interests of environmentally-motivated consumers and early adopters. In 2015, EPA finalized ENERGY STAR product specifications across 8 products, including large network equipment for the first time.

The agency also improves ambient air quality through its programs that address criteria pollutants, including ground-level ozone and particulate matter. As required by the CAA, the EPA periodically reviews the National Ambient Air Quality Standards (NAAQS) and the science on which they are based. This past year, the agency strengthened the NAAQS for ground-level ozone to 70 parts per billion (ppb), based on extensive scientific evidence. The updated standards will improve public health protection, particularly for at-risk groups including children, older adults, people of all ages who have lung diseases such as asthma, and people who are active outdoors, especially outdoor workers. The EPA also sets emission standards for industrial categories that cause, or significantly contribute to, air pollution that may endanger public health or welfare.

The EPA's air toxic control programs are critical to continued progress in reducing public health risks and improving the quality of the environment. The 2011 National Air Toxics Assessment (NATA) estimated that the U.S. population at the time of the assessment had an increased cancer risk of 40 in a million due to the inhalation of toxic air pollutants from outdoor sources. The EPA will continue to focus efforts on communities with greater levels of industrial and mobile source activity (e.g., near ports, distribution areas, or large stationary sources, etc.), which can have significant cumulative exposure to air toxics. The air toxics emissions standards must be reviewed every eight years to determine if additional emission control technologies exist, and the EPA has a number of rulemakings underway to propose more effective emission control technologies based on the reviews. This past year the agency finalized a rulemaking to update air toxics standards for petroleum refineries, which included first-ever proposed requirements for fence-line monitoring as a cost-effective means of managing fugitive emissions. This common sense approach allows the agency and local communities to better understand the risks to neighborhoods located near refineries.

In addition, the agency measures and monitors ambient radiation and radioactive materials and assesses radioactive contamination in the environment. The agency also supports federal radiological emergency response and recovery operations under the National Response Framework (NRF) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

The EPA continues to implement its non-regulatory indoor air quality programs. Because levels of certain pollutants can be higher indoors than outdoors, and since people spend much of their

⁵https://www.energystar.gov/ia/partners/publications/pubdocs/Overview%20of%20Achievements_508Compliant.pdf

lives indoors, the quality of indoor air is a major concern.⁶ For example, indoor allergens and irritants play a significant role in making asthma worse and triggering asthma attacks. Over 23 million Americans currently have asthma, which annually accounts for over 500,000 hospitalizations, more than 10 million missed school days, and over \$50 billion in economic costs.⁷ In addition, radon is the leading environmental cause of cancer mortality in North America, causing an estimated 21,000 lung cancer deaths annually in the U.S.⁸ From 1990 to 2013, the number of homes with operating mitigation systems increased by more than 700 percent from 175,000 to 1,245,000 homes.

To address asthma, the EPA recently completed a 10-year effort to build capacity at the national, state and local levels to manage environmental asthma triggers by directly training 45,700 healthcare professionals. During this timeframe, the EPA also has led the federal effort to educate, equip and support community asthma programs across the country to deliver comprehensive asthma care. The EPA has reached an important milestone and enrolled the thousandth program in AsthmaCommunityNetwork.org, a virtual, on-line interactive community for asthma champions to share and more rapidly spread effective program strategies in order to advance asthma care.

The FY 2017 requested level for Addressing Climate Change and Improving Air Quality is \$1,132 million, an increase of nearly \$68 million over the FY 2016 Enacted Budget.

Major FY 2017 Changes

Goal 1 resources continue to be targeted to address climate change and enhance ongoing air quality and radiation work, building on progress to date to advance priorities in FY 2017. The agency continues to refine its current research focus to maximize its utility to support rulemakings and program delivery.

Address Climate Change

The FY 2017 budget prioritizes climate action and reflects our commitment to implementing the President's Climate Action Plan. The budget request includes resources for critical work across the EPA for the Clean Power Plan (CPP), including a \$25M increase for grants to states for CPP work and planning. The broad-based plan will cut greenhouse gas pollution that contributes to climate change and affects public health, and support activities to facilitate necessary adaptation to the impacts of climate change.

The EPA's work supports key elements of the Climate Action Plan including:

- Cutting carbon (CO₂) pollution from new and existing power plants
- Cutting carbon pollution (methane) from the oil and natural gas, and landfills source sectors

⁶ U.S. EPA. 1987. "Project Summary – The Total Exposure Assessment Methodology (TEAM) Study". EPA/600/S6-87/002, Sept. 1987.

⁷ Centers for Disease Control and Prevention (2011, May). Asthma in the U.S. Vital Signs. Retrieved from <http://cdc.gov/vitalsigns/asthma> and <http://www.cdc.gov/asthma/nhis/2013/table3-1.htm>.

⁸ U.S. EPA, 2003. EPA's Assessment of Risks from Radon in Homes. EPA 402-R-03-003. Available at <http://www.epa.gov/radiation/docs/assessment/402-r-03-003.pdf>.

- Establishing CO₂ emission standards and supporting increased fuel economy standards for heavy-duty vehicles
- Cutting energy waste in homes, businesses, and factories
- Reducing HFC use and emissions
- Preparing the country to address the impacts of climate change
- Leading international efforts to address climate change, including supporting efforts to control HFCs under the Montreal Protocol
- Integrating climate adaptation planning into programs, policies, rules, and operations.

Power plants are the largest source of carbon dioxide emissions in the United States, making up roughly one-third of all domestic GHG emissions. On August 3, 2015, the EPA finalized the Clean Power Plan, which will establish carbon pollution standards for existing power plants. The Clean Power Plan provides states with significant flexibility to tailor their carbon pollution reduction plans to their own unique circumstances using a variety of approaches, such as energy efficiency and renewable energy measures, as well as multi-state plans that build on cooperation and innovation. As a result, state plan development, review and approval will be complex. In FY 2017, the agency will focus resources to support states as they begin to implement or, in some cases, finalize their plans. Resources will be focused both in the regional offices to provide tailored, state-specific assistance and in headquarters where technical experts will develop guidance and other resources that are sector-wide in scope and address questions that affect overall implementation of the plan. In FY 2017, implementation of updates to the oil and natural gas rules will reduce GHG emissions—primarily methane—from new and modified processes and equipment in the oil and gas industry, and achieve additional emission reductions of volatile organic compound (VOC) pollution from these sources.

In FY 2016, consistent with the President’s Climate Action Plan, the EPA plans to finalize a second phase of GHG standards for post Model Year 2018 medium- and heavy-duty vehicles, offering further opportunities to reduce emissions, decrease the nation’s oil use, and benefit consumers and businesses by reducing the cost of transporting goods while spurring job growth and innovation in the clean energy technology sector. The agency also committed to perform, in coordination with NHTSA and the California Air Resources Board (CARB), a Midterm Evaluation of the Model Year 2022-2025 light-duty GHG standards.⁹ To support the Midterm Evaluation, in FY 2017 the agency is performing a comprehensive feasibility evaluation of advanced technologies. This evaluation will support the agency strategy to advance the use of evidence in decision-making.

Improve Air Quality

In FY 2017, the agency will continue to focus on addressing regulatory implementation across the air program. The EPA will continue to administer the National Ambient Air Quality Standards (NAAQS) by taking federal oversight actions, when necessary, and by developing guidance for use by state, tribal, and local air agencies to ensure continued health and welfare protection.

National standards have a big impact on the quality of life in local communities. In FY 2017, the agency also continues a strong emphasis on supporting communities in their efforts to combat

⁹ For additional information, please see the following website: <http://www.epa.gov/otaq/climate/mte.htm>.

localized effects of air pollution. Communities do not always have sufficient air quality data at the local level to understand and act upon existing risks. In FY 2017, the EPA will continue to develop advanced monitoring technical support and tools to help communities detect, monitor, understand, and act upon their local air quality issues.

Research: Air, Climate and Energy

In FY 2017, the EPA is investing \$1.6 million to focus on understanding and preventing potential impacts on air quality. This research will assist decision makers (federal, state, Tribal, and local; industry and energy sectors; and the public) in making environmentally responsible energy extraction and processing decisions. In addition, in FY 2017 the EPA is investing \$3 million for research to study the environmental and resource conservation impacts of clean fuels use on air and water quality, soil quality and conservation, water availability, ecosystem health and biodiversity, invasive species, and on the international environment.

Agency Priority Goals

As part of the EPA's FY 2014-2018 Strategic Plan, the EPA established FY 2014-2015 Agency Priority Goals (APGs). The agency met all of the milestones and targets under its FY 2014-2015 APG to reduce greenhouse gas emissions from cars and trucks. For FY 2016-2017, the updated Goal 1 APG highlights the EPA's continued efforts to reduce greenhouse gas emissions from cars and trucks as follows:

Reduce GHG emissions from vehicles and trucks. Through September 30, 2017, EPA, in coordination with Department of Transportation's fuel economy and fuel consumption standards programs, will implement vehicle and commercial truck greenhouse gas standards with a focus on industry compliance to ensure the significant reductions in greenhouse gases and oil consumption called for under the standards are realized. The light-duty and heavy-duty standards for model years 2012-2025 are projected to reduce greenhouse gas (GHG) emissions by more than 6.3 billion metric tons and reduce U.S. oil consumption by over 12.5 billion barrels over the lifetime of the affected vehicles and commercial trucks.

Additional information on the EPA's Agency Priority Goals can be found at www.performance.gov.

FY 2017 Activities

Objective 1: Address Climate Change. Minimize the threats posed by climate change by reducing greenhouse gas emissions and taking actions that help to protect human health and help communities and ecosystems become more sustainable and resilient to the effects of climate change.

Climate change poses risks to public health, the environment, cultural resources, the economy, and quality of life. Impacts of climate change are already evident and will intensify in the future. The National Oceanic and Atmospheric Administration (NOAA) and National Aeronautics and Space Administration (NASA) announced on January 16, 2015, that 2014 was the hottest year on record

and data indicates 2015 has met or surpassed that mark. The EPA's strategy to address climate change supports the President's GHG reduction goals and the agency's budget includes \$210.0 million to support regulatory activities and partnership programs to reduce GHG emissions domestically and internationally. In FY 2017, the agency will focus on a number of significant activities including:

- Working with states to implement the Clean Power Plan carbon dioxide (CO₂) emission standards for existing power plants, including technical assistance and funding to support development of state plans.
- Implementing a second phase of heavy-duty vehicle GHG regulations that incorporates a wider range of advanced technologies, including hybrid vehicle drive trains, and also exploring options to reduce emissions from a wide range of nonroad equipment, locomotives, aircraft, and transportation fuels.
- Prioritizing and reviewing low GWP options for use in consumer and industrial use sectors under SNAP, while considering existing listings that may require reassessment based on the advent of new, more environmentally friendly options. Work in FY 2017 will involve continued SNAP listings, rulemakings, and technical support for stakeholders and innovative firms with new alternatives. There also may be activities related to the Montreal Protocol amendment.
- Working with stakeholders to implement the requirements of the EPA's NSPS and National Emission Standards for Hazardous Air Pollutants (NESHAP) to reduce emissions of GHG from the oil and gas industry.
- Supporting reporting and verification in the GHG Reporting Program of emissions across 41 industry sectors and emission sources and approximately 8,000 reporters.
- Leading the Global Methane Initiative (GMI) and more closely aligning the work of GMI with other multilateral efforts, such as the Climate and Clean Air Coalition to Reduce Short Lived Climate Pollutants, to facilitate more effective and efficient global methane reduction efforts and deliver clean energy to markets.
- Implementing the ENERGY STAR program and other greenhouse gas reduction partnership programs such as SmartWay Transport across the residential, commercial, industrial, and transportation sectors. The EPA will have up to 20 product specifications underway, as well as a major update to the 1-100 ENERGY STAR scores for commercial buildings.
- Continuing to implement the new Renewable Fuel Standards (RFS2) program and carrying out other actions required by the Energy Policy Act (EPAct) of 2005 and the Energy Independence and Security Act (EISA) of 2007.
- Supporting implementation and compliance with GHG emission standards for light-duty and heavy-duty vehicles and the NHTSA CAFE standards. Under the CAA and the Energy Policy Act, the EPA is responsible for issuing certificates and ensuring compliance with both the GHG and CAFE standards.
- Supporting activities related to the finding that GHG emissions from certain classes of engines used in aircraft contribute to air pollution that causes climate change and endangers public health and welfare. The EPA will develop domestic proposed CO₂ standards for consideration based on the finding. Additionally, working with the Federal Aviation Administration (FAA), the EPA will continue working with the International Civil Aviation Organization (ICAO) on international CO₂ standards for aircraft.

In FY 2017, the EPA will continue to build and strengthen the capacity of states, tribes, and local communities to anticipate, prepare for, and adapt to a changing climate. A central element of this effort focuses on supporting climate-resilient investments across the nation. This is consistent with directives in Executive Order 13653 ("Preparing the United States for the Impacts of Climate Change"). In FY 2017, the EPA will ensure that a cumulative number of 120 state, tribal, and community partners have integrated climate change data, models, information, and other decision-support tools developed by the EPA for climate change adaptation into their planning processes; and, that 100 state, tribal, and community partners have incorporated climate change adaptation into the implementation of their environmental programs supported by major EPA financial mechanisms (grants, loans, contracts, and technical assistance agreements). The goal of these efforts is to ensure continued protection of human health and the environment even as the climate changes, and to empower states, tribes, and local communities to increase their resilience and prepare for the impacts of climate change.

Objective 2: Improve Air Quality. *Achieve and maintain health and welfare based air pollution standards and reduce risk from toxic air pollutants and indoor air contaminants.*

Clean Air

In FY 2017, the EPA will continue its CAA-prescribed responsibilities to administer the NAAQS. The NAAQS help improve air quality and reduce related health and welfare impacts and their costs to the nation. The EPA will continue to implement a strategy that, where appropriate, supports the development and evaluation of multiple pollutant measurements.

In FY 2017, the EPA will continue its reviews of the NAAQS in accordance with the statutory mandate to review the standards every five years and make revisions, as appropriate. The EPA will provide technical and policy assistance to states and tribes developing or revising attainment State Implementation Plans (SIPs) and Tribal Implementation Plans (TIPs) and will designate areas as attainment or nonattainment, as appropriate. The agency also will continue efforts to reduce the number of backlogged SIPs and to act on incoming SIPs within the CAAA-mandated timeframe.

The EPA will continue to partner with states, tribes, and local governments to ensure progress toward air quality improvement objectives, including consideration of environmental justice issues. The budget includes funding for state and local ambient air quality management grants to support core state workload for implementing NAAQS, for reducing exposure to air toxics to ensure improved air quality in communities, and for additional air monitors required by revised NAAQS. The EPA will provide technical and policy assistance to states developing or revising SIPs or regional haze implementation plans and will continue to review and act on SIP submissions in accordance with the CAAA. Ongoing technical assistance to state, tribal, and local air agencies to support these objectives includes source characterization analyses, emission inventories, quality assurance protocols, improved testing and monitoring techniques, and air quality modeling. The EPA also will work with the states to address the interstate transport of pollution that contributes to nonattainment or interferes with maintaining ozone and/or PM NAAQS in areas outside the source location.

In conjunction with the EPA's standards to cut carbon pollution and improve air quality, the President's 21st Century Clean Transportation Plan proposes to establish a mandatory fund at the EPA that will accelerate the transition to cleaner vehicle fleets, focusing on school bus upgrades that improve children's health. The new fund will renew and increase funding for the DERA Grant Program, which is set to expire in 2016.

The EPA also will continue to target its traditional discretionary funding for areas that suffer from poor air quality and will focus on projects that engage local communities and provide lasting benefits. The EPA is especially interested in working with port communities and has adjusted its national RFP to prioritize projects that reduce emissions from engines involved in goods movements and freight industries. The EPA also plans to continue to offer rebate funding and focus on fleet turnover for engines that pre-date the EPA's on-highway standards for PM (model year 2006 or older).

In FY 2017, the EPA will use its upgraded vehicle, engine, and fuel testing capabilities at the National Vehicle and Fuel Emissions Laboratory (NVFEL) to increase testing and certification capacity to ensure that new vehicles, engines, and fuels are in compliance with new vehicle and fuel standards and to conduct aggressive testing to identify the use of defeat devices. The agency is responsible for establishing test procedures to estimate the fuel economy of new vehicles and for verifying car manufacturers' data on fuel economy. The EPA anticipates reviewing and approving approximately 5,000 vehicle and engine emissions certification requests – a workload that has quadrupled over the past decade. The testing will screen for defeat devices and other emissions problems in both new and in-use vehicles and engines. The EPA uses in-use emissions data provided by light-duty vehicle manufacturers as a means to measure compliance and determine if any follow-up evaluation or testing is necessary. The NVFEL's workload will continue to grow as the lab begins to implement new, and more stringent, GHG emission standards for additional classes of vehicles and engines.

Air Toxics

The agency will continue to work with state, tribal, and local air pollution control agencies and community groups to assess and address air toxics emissions in areas of greatest concern. One of the top priorities for the air toxics program is to eliminate unacceptable health risks and exposures to air toxics in affected communities and to fulfill its CAAA and court-ordered obligations. The CAAA requires that all technology-based emission standards be reviewed and updated as necessary every eight years. In FY 2017, the EPA will continue to conduct technology reviews and risk assessments to determine whether the technology-based rules appropriately protect public health to comply with legal deadlines.

The EPA will continue development of its multi-pollutant efforts by constructing and organizing analyses around industrial sectors. By addressing individual sectors' emissions comprehensively and prioritizing regulatory efforts on the pollutants of greatest concern, the EPA will continue to identify ways to take advantage of the co-benefits of pollution control. In developing sector and multi-pollutant approaches, the agency seeks innovative solutions that address pollutants in the various sectors and minimize costs to the EPA, states, tribes, local governments and the regulated community.

The EPA will continue to improve the dissemination of information to state, Tribal, and local governments, and the public, using analytical tools, such as the National Air Toxics Assessments (NATA), enhancing quantitative assessment tools, such as BenMAP, and improving emission inventory estimates for toxic air pollutants. The EPA anticipates that these improvements will increase the agency's ability to meet aggressive court-ordered schedules to complete rulemaking activities, especially in the air toxics program.

Indoor Air

In 2017, the EPA will continue to leverage public and private systems to drive policies, interventions, and individual actions that increase healthy indoor air where people live, learn and work. The agency will build the capacity of an additional 300 community-based organizations to support the delivery, infrastructure, and sustainable financing of environmental asthma interventions at home and school. Strong evidence indicates that many chronic health conditions like asthma disproportionately affect low income, minority, and tribal communities. Environmental pollutants in homes and schools can cause and exacerbate asthma. Further evidence indicates that investment in home and school interventions will improve health outcomes and reduce and/or shift health care costs from medical treatment to secondary prevention. Approximately one half of our nation's schools now have indoor air quality (IAQ) management programs in place, helping to ensure healthy school environments and the EPA will continue to promote the adoption of IAQ management programs to reach the remaining 60,000 schools. The EPA will continue to co-lead the implementation of the Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities, an initiative under the auspices of the President's Task Force on Environmental Health Risks and Safety Risks to Children.

The EPA will deliver clear and verifiable protocols and specifications to ensure good indoor air quality in homes and schools. This effort will be accomplished through the Indoor airPLUS program for new homes and protocols that protect IAQ during energy upgrades in existing single- and multi-family homes and schools. The EPA will collaborate with public and private organizations to integrate these protocols and specifications into existing energy-efficiency, green-building and health-related programs and initiatives.

In FY 2017, the EPA will continue its leadership role and collaborate with other federal agencies to reduce risks from radon through the National Radon Action Plan, a public-private partnership that includes multiple non-profit radon and public health organizations, and will continue to implement its own multi-pronged radon program. The EPA will drive action at the national level to reduce radon risk in homes and schools using partnerships with other federal agencies, the private sector and public health groups, public outreach, and education activities. The agency will encourage radon risk reduction as a normal part of doing business in the real estate marketplace, will promote local and state adoption of radon prevention standards in building codes, and will participate in the development of national voluntary standards (e.g., mitigation and construction protocols) for adoption by states and the radon industry.

Objective 3: Restore and Protect the Ozone Layer. Restore and protect the earth's stratospheric ozone layer and protect the public from the harmful effects of ultraviolet (UV) radiation.

Restore the Ozone Layer

The stratospheric ozone program implements the provisions of the CAAA and the *Montreal Protocol on Substances that Deplete the Ozone Layer* (Montreal Protocol). Under the CAAA and the Montreal Protocol, the EPA is authorized to control and reduce ozone depleting substances (ODS) in the U.S., and to contribute to the Montreal Protocol Multilateral Fund. As of January 1, 2015, ODS production and imports was capped at 1,524 ODP-weighted metric tons, which is 10 percent of the U.S. baseline under the Montreal Protocol (ODP weighted means that the metric tons of different substances are weighted by ozone depleting potential). In 2020, all production and import will be phased out except for exempted amounts. As ODS and many of their substitutes are potent GHGs, appropriate control and reduction of these substances also provides significant benefits for climate protection. As a signatory to the Montreal Protocol, the U.S. is committed to ensuring that our domestic program is at least as stringent as international obligations and to regulating and enforcing its terms domestically. In FY 2017, the EPA will focus its work to ensure that ODS production and import caps under the Montreal Protocol and CAAA continue to be met.

Objective 4: Minimize Unnecessary Exposure to Radiation. Minimize releases of radioactive material and be prepared to minimize exposure through response and recovery actions should unavoidable releases occur.

In FY 2017, the EPA's Radiation program, in cooperation with federal agencies, states, tribes, and international radiation protection organizations, will develop and use voluntary and regulatory programs, public information, and training to protect the public from unnecessary exposures to radiation. The EPA expects to complete its review of the public comments and move toward a final rule in 2017 on the revisions to the agency's Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings (40 CFR 192), last reviewed in 1995. The agency also will work to ensure that the nation has broad-based, non-site-specific standards that protect public health and the environment from risks associated with subsurface disposal of high-level radioactive waste.

The EPA's Radiological Emergency Response Team will maintain the level of readiness to support federal radiological emergency response and recovery operations under the National Response Framework and the National Oil and Hazardous Substances Pollution Contingency Plan in FY 2017. RadNet, the agency's national ambient radiation air monitoring system, will continue to provide data from 135 locations in the United States and Puerto Rico to assist in protective action determinations. The EPA will continue to support waste site characterization and clean-up by providing field and fixed laboratory environmental radioanalytical data and technical support, delivering radioanalytical training to state and federal partners, and developing improved radioanalytical methods.

In FY 2017, the EPA will continue to implement its regulatory oversight responsibilities for Department of Energy (DOE) activities at the Waste Isolation Pilot Plant (WIPP) facility, as mandated by Congress in the WIPP Land Withdrawal Act of 1992. This includes conducting

inspections of waste generator facilities and evaluating DOE's compliance with the EPA's standards and applicable environmental laws and regulations to ensure the permanent and safe disposal of all radioactive waste shipped to WIPP.

Research

Improvements in air pollution, made over the past 45 years, are being threatened by climate change and complicated by rapidly changing energy technologies, which have both benefits and potential adverse effects. The EPA's Air, Climate and Energy (ACE) research program integrates air and climate science to gain a better understanding of how energy science and engineering interconnect. The ACE research program includes numerous stakeholders in the process—the EPA's regional and program offices, states and communities—that rely on the EPA's research.

The EPA's Air, Climate and Energy research program, funded at \$101.2 million for FY 2017, provides cutting-edge scientific information and tools to support EPA's strategic goals of protecting and improving air quality and addressing climate change and to assist communities and decision makers at all levels of government to make the best decisions. Human exposure to an evolving array of air pollutants is a considerable challenge. By integrating air, climate, and energy research, the EPA can better understand, define, and address the complexity of these interactions.

The ACE research program will continue to address critical science questions under three major research objectives.

Research Objective 1: Assess Impacts – Assess human and ecosystem exposures and effects associated with air pollutants and climate change at individual, community, regional and global scales. For example, the EPA will study the cardiovascular and respiratory effects associated with exposures to pollutant mixtures and will investigate what factors, such as disease, genetics and social factors, impact susceptibility to these health impacts.

Research Objective 2: Prevent and Reduce Emissions – Provide data and tools to develop and evaluate approaches to prevent and reduce emissions of pollutants into the atmosphere, particularly environmentally sustainable, cost-effective, and innovative multipollutant and sector-based approaches. For example, the EPA is developing a prototype testing platform for sensor evaluation and the development of community-targeted tools for the use and interpretation of air sensor data.

Research Objective 3: Prepare for and Respond to Changes in Climate and Air Quality – Provide human exposure and environmental modeling, monitoring, metrics, and information needed by individuals, communities, and governmental agencies to take action to prepare for and mitigate the impacts of climate change, and make public health decisions regarding air quality. For example, the EPA also will develop and apply computational tools for analyses of potential co-benefits and trade-offs of various future energy scenarios and air quality management practices in a changing climate.

In FY 2017, research devoted to unconventional oil and gas activities will focus on understanding and preventing potential impacts on air quality. This research will assist decision makers (federal, state, Tribal, and local; industry and energy sectors; and the public) in making environmentally responsible energy extraction and processing decisions. This work aligns with a Memorandum of

Agreement (MOA) between the EPA, Department of Energy (DOE) and the Department of the Interior (DOI) to develop a multi-agency program to focus on timely, policy relevant science to support sound policy decisions by state and federal agencies for ensuring the prudent development of energy sources while protecting human health and the environment. Additional goals include minimizing potential risks in developing these resources, maximizing each agency's particular strength, and reducing interagency overlap. Also, as part of the MOA, the EPA's Safe and Sustainable Water Resources (SSWR) research program will undertake a coordinated effort to study the potential impacts of hydraulic fracturing on water quality and ecosystems.

In addition, in FY 2017 the EPA is investing \$3 million for research to study the environmental and resource conservation impacts of clean fuels use on air and water quality, soil quality and conservation. The research also will consider water availability, ecosystem health and biodiversity, invasive species, and impacts on the international environment.

**Environmental Protection Agency
FY 2017 Annual Performance Plan and Congressional Justification**

Goal 2: Protecting America's Waters

Protect and restore waters to ensure that drinking water is safe and sustainably managed, and that aquatic ecosystems sustain fish, plants, wildlife, and other biota, as well as economic, recreational, and subsistence activities.

STRATEGIC OBJECTIVES:

- Protect, restore, and sustain the quality of rivers, lakes, streams, and wetlands on a watershed basis, and sustainably manage and protect coastal and ocean resources and ecosystems.
- Achieve and maintain standards and guidelines protective of human health in drinking water supplies, fish, shellfish, and recreational waters, and protect and sustainably manage drinking water resources.

GOAL, OBJECTIVE SUMMARY

Budget Authority
Full-time Equivalent
(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Protecting America's Waters	\$4,075,403.1	\$3,980,755.0	\$3,745,863.9	(\$234,891.1)
Protect and Restore Watersheds and Aquatic Ecosystems	\$2,800,308.6	\$2,753,938.6	\$2,356,702.3	(\$397,236.3)
Protect Human Health	\$1,275,094.5	\$1,226,816.5	\$1,389,161.5	\$162,345.0
Total Authorized Workyears	3,034.5	3,181.4	3,167.8	-13.6

Goal 2: Protecting America's Waters

Strategic Goal: *Protect and restore our waters to ensure that drinking water is safe and sustainably managed, and that aquatic ecosystems sustain fish, plants, wildlife, and other biota, as well as economic, recreational, and subsistence activities.*

Introduction

As we work to protect the nation's water, innovative approaches and effective partnerships are needed to make and sustain improvements. While much progress in water quality has been made over the last two decades, America's waters remain imperiled. Increased demands, poorly managed land use practices, population growth, aging infrastructure, and the impacts of a changing climate pose serious challenges to our nation's water resources. The National Coastal Condition Report IV shows that although improvement has taken place since 1990, the overall condition of the nation's coastal resources continues to be rated fair.¹⁰ In addition, the latest national assessments¹¹ confirm that America's waters are stressed by nutrient pollution, excess sedimentation, and degradation of shoreline vegetation, which affect more than 50 percent of our lakes and streams. The rate at which new waters are listed for water quality impairments exceeds the pace at which restored waters are removed from the list. For many years, nonpoint source pollution—principally nitrogen, phosphorus, and sediments—has been recognized as the largest remaining impediment to improving water quality, and it is difficult to address the varied and widespread sources of this pollution. In addition, pollution discharged from industrial, municipal, and other point sources continues to cause a decline in the quality of water in many areas. Other significant contributors to degraded water quality include: loss of habitat; habitat fragmentation; and changes in the way water is infiltrated into soils, runs off the land, and flows down streams (hydrologic alteration).

We no longer rely solely on traditional tools and approaches to protect our waters in urban and rural settings. We are developing new targeting tools, promoting green infrastructure and sustainable solutions, and building resiliency to deal with the impacts from climate change. We also are strengthening our partnerships with federal agencies, non-governmental organizations and private companies committed to supporting local efforts to improve and protect waterways. From nutrient loadings and polluted stormwater runoff, to invasive species, energy extraction, and drinking water contaminants, water quality programs face complex challenges that can be addressed effectively only through a combination of traditional and innovative strategies. The EPA will continue to work hand-in-hand with states and tribes to develop and implement nutrient limits and intensify our work to restore and protect the quality of the nation's streams, rivers, lakes, bays, oceans, and aquifers. We will continue the increased focus on urban and rural communities, particularly those disadvantaged communities facing disproportionate impacts, or that have been historically underserved. We also work together with our partners to protect and restore threatened natural treasures such as the Great Lakes, the Chesapeake Bay, the Gulf of Mexico, and the Puget

¹⁰ U.S. EPA. 2012. *National Coastal Condition Report IV*. EPA-842-R-10-003. Available at <http://water.epa.gov/type/oceb/assessmonitor/nccr/upload/NCCR4-Report.pdf>.

¹¹ U.S. EPA, 2006. *Wadeable Streams Assessment: A Collaborative Survey of the Nation's Streams*. EPA 841-B-06-002. Available at <http://www.epa.gov/owow/streamsurvey>. See also EPA, 2010. *National Lakes Assessment: A Collaborative Survey of the Nation's Lakes*. EPA 841-R-09-001. Available at http://www.epa.gov/lakessurvey/pdf/nla_chapter0.pdf.

Sound; address our neglected urban rivers; ensure safe drinking water; and reduce pollution from nonpoint and industrial discharges. The EPA will continue to address post-construction runoff, water-quality impairments from surface mining, and drinking water contamination. The EPA's Water Technology Innovation blueprint frames the business case for and provides examples of innovation across the water sector.¹²

As part of the agency's long-term strategy, the EPA is implementing a Sustainable Water Infrastructure Policy¹³ that focuses on working with states and communities to significantly expand more effective management and enhance technical, managerial and financial capacity within the drinking water and wastewater sectors. The agency will continue to promote capacity building, small system partnerships, and full-cost pricing, which all have the potential to reduce the long-term need for water infrastructure investment. Important to enhancing the technical capacity of the water sector, the EPA will utilize alternatives analyses to expand green infrastructure options and their multiple benefits. Implementation of the Water Infrastructure Finance Innovation Act program (WIFIA), federal dollars provided through the State Revolving Funds (SRFs) and support from the Water Infrastructure and Resiliency Finance Center (WIRFC) and the Center for Environmental Finance (CEF) will act as catalysts for efficient system-wide planning and ongoing management of sustainable water infrastructure.

The EPA will strengthen instrumental partnerships across the federal government to leverage resources and avoid duplication. The EPA and U.S. Department of Agriculture continue to enhance existing coordination efforts in reducing nonpoint source pollution. The EPA, Department of the Interior, and Department of Energy are working together to research the impacts of hydraulic fracturing activities to support the state and federal agencies that oversee this growing energy extraction method.

Goal 2 resources include \$3.746 billion and 3,168 FTE. Resources and FTE have been targeted to build on progress to date and advance the agency priorities in FY 2017. Funding for the categorical grants to states and tribes to support core environmental programs in Goal 2 is \$549 million. In FY 2017, the agency is requesting \$2 billion for the Clean Water and Drinking Water State Revolving Funds (SRFs), a reduction of approximately \$257 million from the FY 2016 operating level.

Major FY 2017 Changes

Water Infrastructure Finance and Innovation Act (WIFIA) Program

The Water Infrastructure Finance and Innovation Act of 2014 (WIFIA) authorized an innovative financing mechanism for water-related infrastructure of national or regional significance and authorized the EPA to provide federal credit assistance to eligible entities. The FY 2017 budget requests \$20 million to begin issuing loans under the new WIFIA program, offering another tool in support of drinking water and wastewater infrastructure projects. WIFIA will supplement the existing State Revolving Fund programs, helping to meet the United States' water infrastructure

¹² U.S. EPA. 2014. Promoting Technology Innovation for Clean and Safe Water. EPA 820-R-14-006. Available at <http://www2.epa.gov/innovation/watertech>.

¹³ <http://water.epa.gov/infrastructure/sustain/upload/Sustainability-Policy.pdf>.

needs and address key priorities. The WIFIA program will accelerate investment in our nation's infrastructure by providing supplemental credit assistance, in the form of direct loans, to innovative credit-worthy projects. In FY 2016 and 2017, EPA will continue the significant work of developing and starting up the WIFIA program, including proposing regulations outlining the credit program. Of the total request level, \$15 million in credit subsidy translates into a potential loan capacity of nearly \$1 billion to eligible entities for infrastructure projects with the initial loans taking place in FY 2017.

Drinking Water Programs

The FY 2017 budget proposes to increase funding for Drinking Water Programs by over \$12 million to expand the technical, managerial, and financial capabilities of drinking water systems to reliably provide safe drinking water to their customers now and into the future. This investment is designed to promote economic growth through innovative financing, techniques such as system partnerships, capacity building, full cost pricing, and public and private collaboration. These initiatives all have the potential to reduce the long-term need for water infrastructure investment and will complement the successful state revolving fund programs.

Public Water System Supervision Grants

The EPA is requesting a \$7.7 million increase to focus on a variety of strategies that will specifically address challenges public water systems are facing today that impede their ability to achieve long-term sustainability. These challenges include lack of managerial capacity, significant water loss due to pipe failures in distribution systems, and climate change threats to the quality and quantity of drinking water sources. Additional resources will allow the EPA to increase training and technical assistance to enhance the skills of system personnel in the areas of source water protection, financial planning, asset management, and implementation of sustainable practices such as water loss and conservation to protect the infrastructure investments.

Clean Water and Drinking Water SRFs

The Administration has strongly supported the SRFs. To date, federal capitalization totals over \$22 billion since 2009. Since their inception, the SRFs have been funded at over \$62 billion. In FY 2017, the agency's budget includes \$2 billion for the SRFs, a decrease of \$257 million in funding from FY 2016 Enacted levels. The budget provides \$1,020.5 million for the Drinking Water SRF and \$979.5 million for the Clean Water SRF. For the Clean Water SRF, the Administration strongly supports efforts to expand the use of green infrastructure to meet Clean Water Act goals. To further these efforts, the budget targets 20 percent of the Clean Water SRF capitalization grants, subject to project availability, to green infrastructure and innovative projects including those to manage stormwater, which helps communities improve water quality while creating green space, mitigating flooding, and enhancing air quality.

Surface Water Protection

The FY 2017 budget proposes to increase funding for Surface Water Protection by approximately \$28 million. This includes increased funds to support the EPA's infrastructure initiatives. In FY

2017, the agency will invest in the Water Infrastructure and Resiliency Finance Center and integrated planning. The Water Infrastructure and Resiliency Finance Center, established as part of the President's Build America Investment Initiative, will work to provide objective financial technical guidance and help stakeholders find solutions to financing water infrastructure projects. The FY 2017 request maintains the agency's effort to help communities find cost effective approaches to meeting water infrastructure needs.

In addition to supporting water infrastructure needs, the FY 2017 budget continues to support the following core Surface Water Protection program components: water quality standards and technology; National Pollutant Discharge Elimination System (NPDES); water monitoring; Total Maximum Daily Loads (TMDLs); watershed and nonpoint source management ; sustainable infrastructure management; water infrastructure grants management; and Clean Water Act Section 106 program management.

Research: Safe and Sustainable Water Resources

The FY 2017 budget proposes an increase of \$2.2 million for new hydraulic fracturing research to focus on understanding and preventing potential impacts on water quality and ecosystems. This research will continue to assist decision makers (federal, state, Tribal, and local; industry and energy sectors; and the public) in making environmentally-responsible energy extraction and processing decisions.

Agency Priority Goals

In FY 2017, the EPA will continue to build on progress under FY 2014-2015 Agency Priority Goals for the National Water Program that advance agency priorities and the agency's Strategic Plan. In FY 2015, the EPA met the small drinking water system priority goal in the FY 2014-2018 Strategic Plan to have additional states and tribes improve system capacity:

- By September 30, 2015, the EPA will engage with an additional ten states (for a total of 30 states) and three tribes to improve small drinking water systems capability to provide safe drinking water, an invaluable resource.

The EPA also met the FY 2014-2015 priority goal for nonpoint source programs:

- By September 30, 2015, 100 percent of the states will have updated nonpoint source management programs that comport with the new section 319 grant guidelines that will result in better targeting of resources through prioritization and increased coordination with USDA.

The EPA's FY 2016-2017 Priority Goal to improve water quality is:

- Advance resilience in the nation's water infrastructure, while protecting public health and the environment, particularly in high-risk and vulnerable communities. By September 30, 2017, EPA will provide technical assistance and other tools to 25 urban communities to advance green infrastructure planning and implementation efforts to increase local climate

resilience and water quality protections in stormwater infrastructure. EPA also will provide tools and training for 1,000 operators of small water utilities to improve resilience in drinking water, wastewater, and stormwater systems. Trainings will be targeted based on regional threats, such as drought and flooding.

Additional information on the EPA's Agency Priority Goals can be found: www.performance.gov.

FY 2017 Activities

The EPA will continue to emphasize watershed stewardship, watershed-based approaches, water efficiencies, and best practices. In addition, the EPA will continue to implement its core water programs to maximize efficiencies and environmental results.

***Objective 1: Protect Human Health.** Achieve and maintain standards and guidelines protective of human health in drinking water supplies, fish, shellfish, and recreational waters and protect and sustainably manage drinking water resources.*

Drinking Water

In FY 2017, the EPA will continue to implement its Drinking Water Strategy, an approach to expanding public health protection for drinking water. The EPA's goal is to streamline decision-making, expand protection under existing laws, and promote cost-effective new technologies to meet the needs of rural, urban and other water-stressed communities. The agency will focus on regulating groups of drinking water contaminants, improving water treatment technology and expanding communication with states, tribes and urban and rural communities.

In FY 2017, the EPA will continue to provide Public Water System Supervision grants to support state and tribal efforts to assist water systems in meeting existing drinking water regulations and implementing the new Revised Total Coliform Rule. States and tribes will work to support systems to acquire and maintain basic implementation capabilities and to conduct sanitary surveys according to required schedules. The EPA will build on current efforts to identify, prevent, and protect drinking water from known and emerging contaminants that potentially endanger public health. All these activities help address health based violations, water supply shortages and provide operational efficiencies that protect the nation's infrastructure investment. These resources also assist states and tribes in providing technical assistance and training to help meet the continued needs of small water systems. In FY 2015, 91 percent of the population served by community water systems received drinking water that met all applicable health-based drinking water standards, just under the performance target of 92 percent. The additional funding requested will reinvigorate training and technical assistance activities to support regulatory compliance. These activities may include training on basic requirements as well as more advanced treatment and operational issues. The EPA will work with both primacy agencies and water stakeholders to identify specific training needs and potential solutions to compliance-related problems regarding these regulations.

To help ensure water is safe to drink and to address the nation's aging drinking water infrastructure, \$1,020.5 million for the Drinking Water State Revolving Fund will support new infrastructure

improvement projects for public drinking water systems in FY 2017 and beyond. Getting these funds to where they are most needed in a timely manner is important. In FY 2017, appropriated DWSRF funds will again be allocated to the states in accordance with each state's proportion of total drinking water infrastructure need based on the 2011 Needs Survey, which was reported to Congress in April 2013.¹⁴

The EPA also published data concerning the drinking water infrastructure needs of water systems serving tribes and Alaska Native Villages as a special focus of this survey. As directed by the SDWA, the EPA uses the results of the survey to set the state DWSRF allocations every four years. The EPA will be analyzing the results of the 2015 Needs Survey, which will be reported in FY 2017 and applied to the allocation of the state DWSRF grants beginning in FY 2018. This survey will support the agency strategy to advance the use of evidence in decision-making by providing a valuable new dataset.

DWSRF funds have been utilized effectively by the states. Since FY 2006, the DWSRF funds utilization rate¹⁵ has surpassed its performance target. In FY 2015, the DWSRF 94 percent utilization rate exceeded the EPA's target of 89 percent. In concert with the states, the EPA will focus this affordable, flexible financial assistance to support utility compliance with safe drinking water standards. The EPA continues to request a funding floor for assistance provided to tribes, and will reserve the greater of \$20 million or 2 percent of appropriated funds for the Indian Tribes and Alaska Native Villages. The EPA also will work with utilities to promote technical, financial, and managerial capacity as a critical means to meeting infrastructure needs and enhancing program performance and efficiency.

The responsibility for communities and public water systems to continuously provide safe drinking water is a key component of the nation's health and well-being. The delivery of safe drinking water is often taken for granted and is frequently undervalued, which presents considerable challenges to the completion of infrastructure upgrades that are necessary to protect public health. More than 156,000 public water systems provide drinking water to the approximately 320 million people in the U.S. More than 97 percent of these public water systems serve fewer than 10,000 people. While most small systems consistently provide safe, reliable drinking water to their customers, many small systems are facing a number of significant challenges in their ability to achieve and maintain system sustainability. These challenges include aging infrastructure, increased regulatory requirements, workforce shortages/high-turnover, increasing costs, and declining rate bases.

The EPA is focusing attention on the needs of these small communities/systems as the state grant and state assistance programs are implemented. In FY 2012, the EPA re-energized its small systems focus by working more closely with state programs to improve public water system sustainability and public health protection for people served by small water systems as part of an Agency Priority Goal. In FY 2017, the EPA will continue to build on its successful efforts to strengthen small system technical, managerial and financial capability through the implementation of the Capacity Development Program, the Operator Certification Program, the Public Water

¹⁴ Drinking Water Infrastructure Needs Survey and Assessment. April 2013.
http://water.epa.gov/grants_funding/dwsrf/upload/epa816r13006.pdf.

¹⁵ Utilization rate is the cumulative dollar amount of loan agreements divided by cumulative funds available for projects. Cumulative funds available include the federal capitalization grant portion and everything that is in the SRF (state match, interest payments, etc.).

System Supervision state grant program and the Drinking Water State Revolving Fund. The Capacity Development Program establishes a framework within which states and water systems can work together to help these small systems achieve the Safe Drinking Water Act's public health protection objectives. The state Capacity Development programs are supported federally by the Public Water System Supervision state grant funds and the set-asides established in the Drinking Water State Revolving Fund. Since the 1996 SDWA amendments, states have implemented a variety of activities to assist small systems with their compliance challenges and enhance their technical, managerial, and financial capacity. In FY 2017, the EPA will continue to reinforce with states and tribes the concepts developed during implementation of the FY 2010-2013 and FY 2014-2015 drinking water Agency Priority Goal activities.

Fish Consumption

The EPA continues to increase public awareness of the risks to human health associated with the consumption of fish contaminated with mercury, an effort directly linked to the agency's mission to protect human health. The EPA's analysis of data from the Centers for Disease Control and Prevention's National Health and Nutrition Examination Survey (NHANES) shows that the number of women of childbearing age with blood levels of mercury above the level of concern decreased 75 percent between the first continuous data NHANES cycle (1999-2000) and the cycle that was reported in FY 2015.¹⁶ The data do not indicate that women are consuming less fish; instead, the analysis suggests that women have reduced their consumption of the types of fish that have higher mercury concentrations. Also, the EPA used NHANES data to increase the default national fish consumption rate for the general population for inclusion in its revised human health criteria for water quality standards in FY 2015.

Objective 2: Protect and Restore Watersheds and Aquatic Ecosystems: Protect, restore, and sustain the quality of rivers, lakes, streams, and wetlands on a watershed basis, and sustainably manage and protect coastal and ocean resources and ecosystems.

Clean Water

In FY 2017, the EPA will continue to collaborate with states and tribes to make progress toward the EPA's clean water goals. Programs for controlling nonpoint sources of pollution are a key to reducing the number of impaired waters nationwide. The programs provide a multi-faceted approach to the problem, using innovative strategies to help leverage traditional tools. The EPA will support states, tribes, other federal agencies, and local communities to develop watershed-based plans to achieve water quality standards. Working with states, the revolving fund capitalization grants will help build, revive, and "green" our aging infrastructure. In FY 2017, funding in categorical grants for clean water programs will enable the EPA, states, and tribes to implement core clean water programs and promising innovations on a watershed basis to accelerate water quality improvements.

In FY 2017, the EPA will begin to fund WIFIA projects. The EPA expects that entities with large-scale, complex water and wastewater projects will be attracted to WIFIA, though the EPA will

¹⁶ Additional information can be found at the following location: <http://www.epa.gov/fish-tech/reports-and-fact-sheets-about-fish-consumption-and-human-health>.

work to provide assistance to a diverse set of projects. WIFIA funded projects will support both objectives: Protecting Human Health and Restoring Watersheds and Aquatic systems. WIFIA creates a five-year pilot program for water infrastructure investment and provides low-interest loans or loan guarantees to eligible entities for large water and wastewater projects. In addition to the existing State Revolving Fund programs, WIFIA will provide an additional source of low cost capital to help meet the water infrastructure needs and address key priorities.

In FY 2017, the EPA will continue to forge and strengthen strategic partnerships with other federal agency programs, in particular with the USDA's Natural Resources Conservation Service, which implements Farm Bill conservation programs that can help control nonpoint source pollution. Agricultural sources of pollution in the form of animal waste, fertilizer, and sediments have a profound effect on water quality. To further accelerate the reduction of nonpoint source pollution, the EPA and the USDA continue to enhance coordination to achieve improvements in water quality by targeting resources and helping landowners implement voluntary stewardship practices in 184 small watersheds nationwide in at least one watershed in every state. State water quality agencies are conducting in-stream monitoring in a subset of approximately 60 of these watersheds.

Building on over 30 years of clean water successes, the EPA, in conjunction with states and tribes, will address the requirements of the Clean Water Act by focusing on two primary tools: Total Maximum Daily Loads¹⁷ and National Pollutant Discharge Elimination System permits, built upon scientifically sound water quality standards and technology-based pollutant discharge limits. In FY 2017, the CWA 303(d) listing of impaired waters and TMDL programs will continue to engage with states to implement the 10-year vision for the program.¹⁸ As part of this effort, the EPA will continue to encourage states to engage with the public and stakeholders on their priorities, identify opportunities to integrate CWA 303(d) Program priorities with other water quality programs (e.g., state water quality standards, monitoring, CWA 319 (nonpoint source), NPDES, source water protection, and conservation programs) to achieve overall water quality goals and complete TMDLs and other restoration plans to address impaired segments. The EPA will work with states and other partners to develop and implement activities and watershed plans to restore their impaired waters.

The EPA also will work with states and other partners under the E-Enterprise approach to improve our ability to identify and protect healthy waters/watersheds, and to pursue integration and application of core program tools. An important part of restoring impaired waters is reliable and timely data. As part of an agency-wide effort for modernization, the EPA will accelerate implementation of electronic reporting, which will minimize burden for data entry and error resolution, reduce effort in responding to public requests for data, establish consistent requirements for e-reporting across all states, and allow more timely access to NPDES program data in an electronic format for the EPA, states, regulated entities, and the public.

Also, the EPA will continue to work with states to structure the permit program to better support comprehensive protection of water quality on a waterbody and a watershed basis. Progress has been steady in improving water quality conditions in impaired watersheds nationwide. Reductions

¹⁷ For more information, visit: <http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/index.cfm>.

¹⁸ For more information, visit: <http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/programvision.cfm>.

in nutrient levels in sources of drinking water reduce treatment costs while strengthening public health protection. In 2008, there were only 60 watersheds that experienced improved water quality conditions, as identified by removal of one or more causes of impairment in 2002. By FY 2015, this number had risen to 450 watersheds, exceeding the performance target of 446. However, water quality conditions still remain a significant challenge, with approximately 43,000 known impaired water bodies nationwide at the end of calendar year 2015. In FY 2017, the EPA will continue to work with states to transition to the new approach developed in partnership with states to allow more efficient and transparent reporting under CWA Sections 303(d) and 305(b). This approach will use the USGS National Hydrography Dataset Plus to calculate watershed area to describe previously impaired waters where actions are being implemented and are now attaining water quality standards. This more efficient approach also will strengthen evidence-based decision-making within the agency through the use of improved reporting and collaboration.

In addition, in FY 2017, the EPA will focus on: promoting the use of green infrastructure and water quality-based effluent limits in stormwater permits; controlling discharges from concentrated animal feeding operations; and addressing issues of permitting for new waste streams, such as shale gas extraction, and steam electric power plants. To combat polluted stormwater as a main contributor of nutrients and sediments, the agency issued a final 2012 NPDES general permit for stormwater discharges from large and small construction activities. The general permit strengthens requirements for stormwater discharges from, at a minimum, eligible existing and new construction projects in all areas of the country where the EPA is the NPDES permitting authority.

The EPA budget includes \$979.5 million for the Clean Water State Revolving Fund. As of June 2015, the CWSRF has offered over 36,000 assistance agreements to local communities, providing over \$111 billion in affordable financing for wastewater infrastructure, nonpoint source pollution control, and estuary management projects.

In FY 2017, the agency requests a tribal set-aside of two percent, or \$30 million, whichever is greater, of the funds appropriated from the CWSRF. The EPA also requests the ability to use a portion of the Tribal set-aside for the following: 1) up to \$2 million training and technical assistance related to the operation and management of treatment works on tribal lands; and 2) planning and design of treatment works for the construction, repair, or replacement of privately owned decentralized wastewater treatment systems on tribal lands. Resources will provide much needed assistance to these communities where sanitation infrastructure lags behind the rest of the country and it may cause significant public health concerns.

Through the Monitoring and Assessment Partnership, the EPA will work with states to develop and apply innovative and efficient monitoring tools and techniques to optimize availability of high-quality data to support Clean Water Act program needs. This partnership also will expand the use of monitoring data and geospatial tools for water resource protection to set priorities and evaluate effectiveness. The EPA, states, and tribes will collaborate to conduct field sampling for the 2017 National Lakes Assessment. In FY 2017, the EPA and states will finalize the 2013/2014 National Rivers and Streams Assessment and maintain the schedule for preparation of the coastal and wetlands conditions reports. The EPA/State Steering Committee for the National Rivers and

Streams Assessment will be planning the national survey for rivers and streams, which will be targeted to be in the field in calendar year 2018.¹⁹

The EPA, in cooperation with federal, state and tribal governments and other stakeholders, will continue to make progress toward achieving the national goal of no net loss of wetlands under the Clean Water Act Section 404 regulatory program. In FY 2017, the agency is providing over \$17 million for Wetlands Program Development Grants. In addition, in FY 2017, the EPA will work with other federal and state partners to maximize the effectiveness of resources provided through the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States (RESTORE) Act and support the Natural Resource Damage Assessment associated with the Deepwater Horizon oil spill to restore the Gulf of Mexico.

Since 2002, approximately 1.5 million acres of habitat have been protected or restored within National Estuary Program study areas. The agency's FY 2017 budget requests over \$27 million for National Estuaries Programs and Coastal Waterways that will enable the protection or restoration of one hundred thousand habitat acres.

The EPA budget request includes \$246 million for the Section 106 Categorical State Grant Program that supports prevention and control measures that improve water quality. States and tribes will implement water pollution control programs and strengthen their nutrient management efforts consistent with the EPA's 2011 Framework for state nutrient reduction.

In FY 2017, the agency will continue to assist local communities, particularly underserved communities, in their efforts to restore and protect the quality of their urban waters. The EPA will implement its Urban Waters program and will continue to co-lead the Urban Waters Federal Partnership. The Urban Waters Federal Partnership will provide technical assistance to the 19 Partnership locations and will continue to align federal resources from the EPA, DOI, USDA and other partners to meet local needs more effectively and advance shared multi-agency priorities. For example, the partnership will help address storm water management and promote green infrastructure to improve water quality through identification and transfer of best practices and successful local approaches. The Partnership will continue to identify and champion innovative approaches to making the delivery of federal resources to communities more effective and integrated and will contribute these ideas to the EPA agency-wide Communities Resource Network.

As part of these efforts, the EPA will assist communities in restoring and revitalizing urban waterways and the surrounding land through partnerships with governmental, business, community and other local partners. In FY 2017, the EPA will continue to support place-based work by providing technical assistance and networking support through the EPA's Urban Waters Learning Network, as follows:

- Providing small grants and targeted technical assistance to support innovative community-driven solutions that accelerate measurable improvements in water quality. Projects may include: community greening and green infrastructure, community-driven water quality monitoring and data collection, and community planning and visioning.

¹⁹ National Water Quality Assessment Report. http://www.epa.gov/waters/ir/about_integrated.html.

- Continuing to provide technical assistance and networking support through the EPA’s Urban Waters Learning Network, a peer-to-peer network of urban waters practitioners across the country. Resources developed through this network will be made available nationally, thus effectively up scaling EPA's activities with communities and leveraging the program's place-based efforts for greater national impact.

Climate Change- Management of Sustainable Resources

Climate change contributes to changes in water quality and poses significant challenges to water resource managers. Impacts of climate change include too little water in some places and too much water in others, while some locations are subject to both of these conditions during different times of the year. Water cycle changes are expected to continue and will adversely affect energy production and use, human health, transportation, agriculture, and ecosystems. In 2012, the National Water Program published the second *National Water Program 2012 Strategy: Response to Climate Change*, which describes a set of long-term goals for the management of sustainable water resources for future generations in light of climate change and charts the key “building blocks” that will need to be taken to achieve those goals. It also reflects the wider context of climate change-related activity that is underway throughout the nation. The *2012 Strategy* is intended to be a roadmap to guide future programmatic planning.

Climate Ready Estuaries, Climate Ready Water Utilities, and Green Infrastructure are examples of programs that will help stakeholders adapt to climate change in FY 2017. The Climate Ready Water Utilities initiative will help water systems of all sizes integrate climate variability considerations into their long-range planning. Efforts to incorporate climate change considerations into key programs will help protect water quality and the nation’s investment in drinking water and wastewater treatment infrastructure.

The WaterSense program is a key component of the agency’s efforts to ensure long-term sustainable water infrastructure, contribute to greenhouse gas reductions, and help communities adapt to drought and climate change. Based on the number of water-conserving products shipped through the end of 2014 (the most recent year for which there is data), the program has contributed to cumulative savings in excess of one trillion gallons of water – enough water to supply all the homes in the United States for 42 days – and \$21.7 billion in water, sewer, and energy bills. The energy savings associated with reducing the need to move, treat, and heat that water is equivalent to 54 MMTCO₂E of greenhouse gas reductions.

Alaska Native Villages

In FY 2017, \$17 million in funding is requested for the Alaska Rural and Native Village (ANV) program to continue to reduce disease and health care costs by providing critical basic drinking water and sanitation infrastructure in vulnerable rural and native Alaska communities. These communities lack such services disproportionately when compared to the rest of the country. Investments in wastewater and drinking water infrastructure in rural Alaska and ANV communities contributed to an increase of access to water and sewer service from 60 percent in

the late 1990s to a current level (FY 2015) of 94.6 percent of serviceable rural Alaska homes.²⁰ Both water borne disease rates and health care costs have decreased through the reduction of exposure to raw sewage and drinking water contaminants.^{21,22}

Geographic Water Programs

The Administration has expanded and enhanced numerous cross-agency efforts to promote collaboration and coordination among agencies, which include a suite of large aquatic ecosystem restoration efforts. Four prominent examples of cross-agency restoration efforts are the Puget Sound, the Great Lakes, the Chesapeake Bay, and the Gulf of Mexico. Working with its partners and stakeholders, the EPA implements special programs to protect and restore each of these unique natural resources.

The EPA's ecosystem protection programs encompass a wide range of approaches that address specific at-risk regional areas and larger categories of threatened systems, such as urban waters, estuaries, and wetlands. Locally generated pollution, combined with pollution carried by rivers and streams and deposited from the air, can accumulate in these ecosystems and degrade them over time. The EPA and its federal partners, along with states, tribes, municipalities, and private parties, will continue efforts to restore the integrity of these waters.

Great Lakes:

In FY 2017, the \$250 million in funding requested for the EPA-led Great Lakes Restoration Initiative will address priority environmental issues (e.g., toxic substances, nonpoint source pollution, habitat degradation and loss, and invasive species) in the largest freshwater system in the world. This carefully coordinated interagency effort involves the cooperation of 16 federal agency partners and continues efforts under the third year of a new action plan. This effort has contributed to the removal of 50 Beneficial Use Impairments at 18 different Great Lakes Areas of Concern – five times the number of Beneficial Use Impairments removed in the preceding 22 years.

The EPA will place a priority on: 1) cleaning up and de-listing Areas of Concern; 2) reducing phosphorus contributions from agricultural and urban lands that contribute to harmful algal blooms and other water quality impairments; and 3) preventing introduction of invasive species. Expected outcomes to be achieved in FY 2017 include completing management actions at two Areas of Concern and removing seven Beneficial Use Impairments at Areas of Concern; reduction or control of terrestrial invasive species on an additional 10,000 acres; phosphorus reductions from targeting sources of excess nutrients in sub-watersheds of the western basin of Lake Erie, Saginaw Bay on Lake Huron, and Green Bay on Lake Michigan; and protection, restoration, or enhancement of 35,000 acres of Great Lakes habitats.

²⁰ Based on data from the Indian Health Service (IHS) and the State of Alaska.

²¹ Robert C. Holman, Anianne M Folkema, Rosalyn J. Singleton, John T. Redd, Krista Y. Christensen, Claudia A Steiner, Lawrence B Schonberger, Thomas W. Hennessy, James E. Cheek (2011), *Disparities in Infectious Disease Hospitalizations for American Indian/Alaska Native People*, Public Health Rep. 2011 Jul-Aug; 126(4): 508–521, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3115210/>.

²² Thomas W. Hennessy, Troy Ritter, Robert C. Holman, Dana L. Bruden, Krista L. Yorita, Lisa Bulkow, James E. Cheek, Rosalyn J. Singleton, Jeff Smith, *The Relationship Between In-Home Water Service and the Risk of Respiratory Tract, Skin, and Gastrointestinal Tract Infections Among Rural Alaska Natives*, Am J Public Health. 2008 November; 98(11): 2072–2078. doi: 10.2105/AJPH.2007.115618.

Chesapeake Bay:

The Chesapeake Bay Program requests \$70 million in FY 2017, which will allow the EPA-led inter-agency Federal Leadership Committee to continue implementing the President's Executive Order on Chesapeake Bay Protection and Restoration, to meet the EPA's broad responsibilities under Clean Water Act Section 117. A key focus is implementation of the management strategies under the Bay Watershed Agreement, which was signed in June 2014. The agreement establishes 10 goals and 31 outcomes for sustainable fisheries, water quality, vital habitats, climate change, toxic contaminants, and other areas consistent with the EO. The EPA and its federal partners have worked with the Bay watershed jurisdictions to develop and implement management strategies for all of the outcomes and in FY 2017 will implement two-year workplans. Also, the EPA will continue its oversight of the Chesapeake Bay Total Maximum Daily Load and its support for the Bay watershed jurisdictions as they implement their Watershed Implementation Plans. The EPA will continue its close work with the jurisdictions and thousands of local governments by providing financial support and technical guidance to effectively implement the TMDL. The EPA also will continue implementation of a basin-wide Best Management Practice verification framework.

In FY 2017, continued implementation of the compliance and enforcement strategy for the Bay watershed will target sources of pollution impairing the Bay in the watershed and airshed. The program met its FY 2015 target for pollution controls for phosphorus, but not for nitrogen or sediment. By FY 2017, the program expects to achieve 60 percent of its goals for implementing nitrogen, phosphorus and sediment reduction actions to achieve final TMDL allocations (the long term goal is 100 percent of all reduction actions by 2025). In FY 2017, the TMDL Midpoint Assessment will be completed in order to help inform the development of the jurisdictions' Phase III WIPs in 2018. In addition, by the end of FY 2017, the jurisdictions will have EPA-approved verification programs in place to ensure that their practices and controls are properly installed, operating and maintained.

The EPA will continue its broad range of grant programs, and will prioritize funding for jurisdictions, local governments and watershed organizations based on their proven ability to reduce nutrient and sediment loads from key sectors such as urban development and agriculture. Also, the EPA is working to ensure that the states provide support to local governments for on-the-ground actions necessary to achieve the goals of the Bay TMDL. In FY 2017, the EPA will continue to provide assistance to Bay watershed jurisdictions working to improve the viability and integrity of their water quality offset and trading programs.

Puget Sound:

The Puget Sound program's FY 2017 budget request of over \$30 million will allow the EPA to continue supporting efforts to protect and restore the Puget Sound by implementing the Puget Sound Action Agenda. The goal is for the estuary to support balanced indigenous populations of shellfish, fish and wildlife, and the extensive list of recognized uses of the Puget Sound, as well as to meet obligations under federal tribal treaties.

In FY 2017, the Puget Sound program will continue to implement priority projects accelerate the protection and restoration of riparian areas that protect important stream habitats for endangered

salmon stocks. The EPA will strengthen its coordination with other federal agencies to more effectively target high value riparian areas for investment in multi benefit projects to protect and enhance ecosystem and habitat functions. The EPA addresses its obligations under federal Tribal treaties by funding Puget Sound projects that support treaty-protected resources such as indigenous populations of shellfish, fish and other wildlife. The EPA will work closely with the National Oceanic and Atmospheric Administration and USDA's Natural Resources Conservation Service to implement priority work for riparian protection and restoration. Additionally, the EPA will continue to provide leadership for the Puget Sound Federal Caucus, facilitating coordination of Puget Sound work among the larger group of federal agencies in the Puget Sound basin.

Gulf of Mexico Program:

The Gulf of Mexico Program's FY 2017 budget request of \$4.0 million will support Gulf restoration work, such as improved water quality, habitat conservation and replenishment, environmental education/outreach and protection of coastal and marine resources. Competitive grants will support the development and implementation of comprehensive, stakeholder-informed coastal improvement projects and tools. The focus will be projects and activities that directly support "community-based" restoration and enhancement of habitat, improvement of water quality, education on climate change and coastal resiliency issues, and critical environmental outreach and education opportunities for the general public, including the underserved and under-represented communities of the Coast. The work outputs and outcomes are closely coordinated and complementary with ongoing Gulf Coast Ecosystem Restoration Council and Natural Resources Damages Assessment activities related to the Deepwater Horizon Oil Spill. The projects, programs and partnerships are all taking a regional ecosystem-based approach for the Gulf of Mexico. The EPA will continue to coordinate with the U.S. Department of Agriculture, the U.S. Department of Commerce, other federal agencies, the Gulf States, and other partners to leverage resources toward projects within the Gulf of Mexico region and the Mississippi River Basin.

Homeland Security

In FY 2017, the EPA will continue to provide its national training program to support water systems in the design and deployment of a Water Quality Surveillance and Response System (SRS). Deployment of a Water Quality Surveillance and Response System can allow a water utility to rapidly detect and respond to water quality problems such as contamination in the distribution system in order to reduce public health and economic consequences. In FY 2017, the EPA's water contamination detection efforts will focus on providing outreach and training across the nation, exploring a possible SRS certification program for water systems, and providing technical assistance to water utilities engaged in designing and deploying SRS systems. Also, the EPA will continue to support the Water Alliance for Threat Reduction program to protect the nation's critical water infrastructure and oversee the Water Laboratory Alliance, which enables the water sector to rapidly analyze a surge of laboratory samples during a significant contamination event.

In FY 2017, the EPA will continue to fulfill its obligations under Executive Order (EO) 13636 – Improving Critical Infrastructure Cybersecurity – which designates the EPA as the lead agency responsible for cybersecurity in the water sector. Also, the EPA will continue to partner with the

water sector to promote cybersecurity practices and gauge progress in the sector's implementation of these practices as directed by the Cybersecurity Enhancement Act of 2014. Any interruption of a clean and safe water supply will erode public confidence and could produce significant public health and economic consequences.

In FY 2017, the EPA will continue working to ensure that water sector utilities have access to tools and information to prevent, detect, respond to, and recover from all hazards including terrorist attacks and extreme weather events by promoting drinking water, wastewater, and stormwater system preparedness through the Climate Ready Water Utilities (CRWU) initiative. The mission of the CRWU initiative is to assist water sector utility owners and operators in integrating impacts of climate change and extreme weather considerations into their routine emergency planning practices and operating procedures. Also, the EPA will continue to provide extensive nationwide training sessions with at least 200 water and wastewater systems as well as a series of train-the-trainer forums for technical assistance providers in an effort to reach smaller utilities, with a significant focus in FY 2017 on improving the resilience of the water sector to the impacts of drought.

Research

The EPA's Safe and Sustainable Water Resources (SSWR) research program, funded at \$106.3 million in FY 2017, conducts research and provides the information and tools to EPA, water resource managers, and other decision makers at all levels of government. Research integrates social, economic, and environmental sciences to support the nation's range of growing water-use and ecological requirements.

The overarching watershed approach of the SSWR program's drinking water, wastewater, stormwater and ecosystems research recognizes the dynamic 'one water' hydrologic cycle. Integrated throughout the program are the goals of a sustainable environment, economy and society and the overarching drivers of environmental stressors, extreme events, land use, energy, agriculture and demographic scenarios.

In order to better achieve these goals in FY 2017 and beyond, the SSWR program is organized into four interrelated topics:

- **Watershed Sustainability:** Gathering, synthesizing, and mapping the necessary environmental, economic, and social information of watersheds, from local to national scales, to determine the condition, future prospects, and restoration potential of the Nation's watersheds. For example, a collaborative, cross-agency economic analysis will be continued to account for the value of water benefits and to provide tools for determining changes in value associated with changes in water quality, ecosystem services of water bodies, and watershed integrity.
- **Nutrients (including harmful algal blooms):** Conducting the EPA's nitrogen and co-pollutant (e.g., phosphorus, sulfur, sediment) research efforts for multiple types of water bodies and coordinating across media (water, land and air) and various temporal and spatial scales, including support for developing numeric nutrient criteria, decision-support tools,

and cost-effective approaches to nutrient reduction. For example, the EPA's research will evaluate the relationship between changing water temperatures and the development and duration of algal blooms as well as the proclivity of algae to produce cyanotoxins.

- **Green Infrastructure (GI):** Developing innovative tools, technologies, and strategies for managing water resources (including stormwater) today and over the long term as the climate and other conditions change. For example, on-going community pilot studies will examine the effectiveness of GI pilots and potential co-benefits in order to provide guidance and lessons learned for other communities.
- **Water Systems (Drinking Water and Wastewater):** Developing tools and technologies for the sustainable treatment of water and wastewater, and promoting the economic recovery of water, energy, and nutrient resources through innovative municipal water services and whole system assessment tools. This area focuses on small water systems and can be scaled up to larger systems. For example, research will assess the health and environmental impacts of known and emerging risks of individual and groups of chemical and biological contaminants, including algal toxins and cyanotoxins, in drinking water and its sources.

In June 2015, the EPA released its *Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources* (External Review Draft),²³ along with nine peer-reviewed EPA reports conducted as part of the EPA's Hydraulic Fracturing Drinking Water Study. This study has produced a total of 12 EPA reports and four EPA-authored journal publications. It advances our scientific understanding of the potential impacts of hydraulic fracturing on drinking water resources and the factors that may influence those impacts. The assessment is an important resource for states, tribes, industry and other stakeholders, and the public who are seeking to develop unconventional oil and gas resources while protecting human health and the environment. The EPA's draft hydraulic fracturing drinking water assessment will be reviewed by the agency's Science Advisory Board (SAB) in FY 2016, and will be finalized in 2016 once all comments are incorporated.

In FY 2017, research devoted to unconventional oil and gas activities will focus on understanding and preventing potential impacts on water quality and ecosystems. This research will continue to assist decision makers (federal, state, tribal, and local; industry and energy sectors; and the public) in making environmentally responsible energy extraction and processing decisions. This work aligns with a Memorandum of Agreement (MOA) between the EPA, the Department of Energy (DOE) and the Department of the Interior (DOI) to develop a multi-agency program to focus on timely, policy relevant science to support sound policy decisions by state and federal agencies for ensuring the prudent development of energy sources while protecting human health and the environment. Additional goals include minimizing potential risks in developing these resources, maximizing each agency's particular strength, and reducing interagency overlap. Also as part of the MOA, the EPA's Air, Climate and Energy (ACE) research program will undertake a coordinated effort to study the potential impacts of hydraulic fracturing on air quality.

²³ <http://www2.epa.gov/hfstudy>.

**Environmental Protection Agency
FY 2017 Annual Performance Plan and Congressional Justification**

Goal 3: Cleaning Up Communities and Advancing Sustainable Development

Clean up communities, advance sustainable development, and protect disproportionately impacted low-income and minority communities. Prevent releases of harmful substances and clean up and restore contaminated areas

STRATEGIC OBJECTIVES:

- Support sustainable, resilient, and livable communities by working with local, state, tribal, and federal partners to promote smart growth, emergency preparedness and recovery planning, brownfield redevelopment, and the equitable distribution of environmental benefits.
- Directly implement federal environmental programs in Indian country and support federal program delegation to tribes. Provide tribes with technical assistance and support capacity development for the establishment and implementation of sustainable environmental programs in Indian country.
- Conserve resources and prevent land contamination by reducing waste generation and toxicity, promoting proper management of waste and petroleum products, and increasing sustainable materials management.
- Prepare for and respond to accidental or intentional releases of contaminants and clean up and restore polluted sites for reuse.

GOAL, OBJECTIVE SUMMARY

Budget Authority
Full-time Equivalents
(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Cleaning Up Communities and Advancing Sustainable Development	\$1,853,602.9	\$1,769,551.8	\$1,909,804.8	\$140,253.0
Promote Sustainable and Livable Communities.	\$440,404.4	\$432,536.0	\$481,556.0	\$49,020.0
Restore Land	\$1,108,314.3	\$1,028,258.7	\$1,066,070.4	\$37,811.7
Strengthen Human Health and Environmental Protection in Indian Country	\$87,622.5	\$87,452.9	\$121,394.6	\$33,941.7
Preserve Land	\$217,261.7	\$221,304.1	\$240,783.8	\$19,479.7
Total Authorized Workyears	3,727.6	3,809.0	3,813.0	4.0

Goal 3: Cleaning Up Communities and Advancing Sustainable Development

Strategic Goal: *Clean up communities, advance sustainable development, and protect disproportionately impacted low-income and minority communities. Prevent releases of harmful substances and clean up and restore contaminated areas.*

Introduction

The EPA leads efforts to preserve, restore, and protect our land, for current and future generations. In communities across the country, the EPA improves the health of American families and protects the environment by cleaning up and restoring valuable local assets, preventing contamination, and responding to emergencies. Collaborating with and effectively leveraging efforts of other federal agencies, states, tribes and local communities, the EPA uses its resources to enhance the livability and economic vitality of neighborhoods in and around brownfields, Superfund, underground storage tank, and other hazardous waste sites. The EPA uses resources to improve oversight of chemical facilities (storage and manufacturing), conducted in coordination with other federal agencies, to prevent and, if needed, respond to chemical facility accidents.

Cleaning up contaminated sites optimizes reuse of using existing infrastructure and results in more efficient and livable communities. Encouraging the minimization of environmental impacts throughout the full life cycle of materials, the EPA's programs promote sustainability. We will continue our work to prevent and reduce exposure to contaminants, accelerate the pace of cleanups, and reduce the environmental impacts associated with land use across the country. Through the prevention of releases and the cleanup of existing contamination and efforts to more effectively reuse materials, the EPA protects and restores air and water resources. Uncontrolled waste releases often affect the quality of the air and cause contamination of groundwater and surface water, contaminating drinking water supplies. Contamination may cause acute illnesses or chronic diseases and threaten healthy ecosystems. Unintended consequences of local land use and infrastructure investments may cause environmental harm, such as increased stormwater runoff, loss of open space, and increased greenhouse gas emissions.

The EPA works collaboratively with international, state, Tribal, and local partners to reach its goals and consider the effects of decisions on communities, placing an emphasis on those areas that are disadvantaged, overburdened and underserved. The EPA will continue to work with communities to help them understand and address risks posed by intentional and accidental releases of hazardous substances into the environment and ensure that communities have an opportunity to participate in environmental decisions that affect them. For example, the 2,000 mile border between the United States and Mexico is one of the most complex and dynamic regions in the world, where the benefits of the EPA's international programs are perhaps most apparent. This region accounts for three of the ten poorest counties in the U.S., with an unemployment rate 250-300 percent higher than the rest of the United States.²⁴ Our efforts are guided by scientific data, tools, and research that alert us to emerging issues and inform decisions on managing materials and addressing contaminated properties.

²⁴ For additional information, refer to: <http://hsc.unm.edu/community/toolkit/docs2/10.USMBHC-TheBorderAtAGlance.pdf>.

In FY 2017, the EPA will partner with states and tribes to prevent and reduce exposure to contaminants. Improved compliance at high-risk oil and chemical facilities through inspections will help prevent exposure and lower the risk of accidents. By coordinating with and leveraging the work of other federal agencies, the EPA and its partners will be able to focus more effectively on high risk facilities. For example, in June 2014, the Occupational Safety and Health Administration was inspecting a facility and alerted EPA Region 2 of a potential compliance issue. The EPA inspected the facility and found significant corrosion in a piece of equipment, which indicated that an unplanned release of ammonia was potentially imminent. The EPA's emergency response program immediately notified and worked closely with the local fire department and company representatives to address and avert the potential dangerous release of ammonia.

In FY 2017, the agency is investing nearly \$1.31 billion to continue to apply the most effective approaches to preserve and restore land by developing and implementing prevention programs, improving response capabilities, and maximizing the effectiveness of response and cleanup actions under the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund), Leaking Underground Storage Tanks (LUST), and other authorities. This strategy will help ensure that human health and the environment are protected and that land is returned to beneficial use in the most effective way.

Superfund and RCRA provide legal authority for the EPA's work to protect and restore the land. The agency and its partners use Superfund authority to clean up uncontrolled or abandoned hazardous waste sites, allowing land to be returned to productive use. Under RCRA, the EPA works in partnership with states and tribes to address risks associated with processes that generate, recycle, transport, treat, store, or dispose of waste. Many communities across the country regularly face risks posed by intentional and accidental releases of hazardous substances into the environment. Approximately 166 million people – roughly 53 percent of the U.S. population and 55 percent of all U.S. children under the age of 5 – live within three miles of a Superfund, RCRA Corrective Action, or Brownfields site that received EPA funding. This population is more likely to be minority, lower income, and linguistically isolated, and less likely to have a high school education than the U.S. population as a whole.²⁵

In FY 2017, scientific data, research, and cost-effective tools will support the land cleanup programs (e.g., Superfund, Brownfields, RCRA Corrective Action, and LUST). The EPA is making significant progress in protecting people who live near sites, assuring that in advance of the full cleanup process, and unacceptable human exposures to contaminants are eliminated or controlled as soon as possible. The RCRA Corrective Action and Superfund programs have made significant progress in stabilizing exposure, while longer-term cleanup moves forward. As of FY 2013, approximately 30 million people lived within a mile of a Superfund or RCRA Corrective Action site where human exposure to contamination has been controlled.²⁶ Across all cleanup programs, the EPA will continue to take action to address any unacceptable exposures and eliminate acute risks while also pursuing long-term, permanent cleanups. This approach is exemplified by the EPA's goal to control contaminated groundwater migration at 1,164 final NPL

²⁵ Data collected includes: site information as of the end of FY 2013 from CERCLIS, RCRAInfo, and ACRES and census data from the 2009-2013 American Community Survey.

²⁶ U.S. EPA, Office of Solid Waste and Emergency Response Estimate. Data collected includes: (1) Site information as of the end of FY 2013; and (2) 2009-2013 American Community Survey (ACS) census data.

sites, deleted NPL sites and non-NPL sites with Superfund Alternative Approach (SAA) agreements in place; and to control human exposures to contamination at 1,457 final NPL sites, deleted NPL sites and non-NPL sites with SAA agreements in place by the end of FY 2017.

Implementing Goal 3 activities will support the EPA's cross-agency strategy, *Working to Make a Visible Difference in Communities*. The EPA will work to conduct transparent and accessible decision-making processes, deliver information that communities can use to participate meaningfully, and help make timely cleanup decisions and produce outcomes that are responsive to community perspectives. The EPA also will help communities proactively address endemic and emerging environmental challenges in ways that build long-term sustainability.

Under federal environmental statutes, the EPA has responsibility for protecting human health and the environment in Indian country. Under the EPA's 1984 Indian Policy, reaffirmed January 9, 2014, the agency works with tribes on a government-to-government basis in recognition of the federal government's trust responsibility to federally-recognized tribes and that the "EPA recognizes tribes as the primary parties for setting standards, making environmental policy decisions, and managing programs for reservations consistent with agency standards and regulations."

The FY 2017 requested level for Cleaning up Communities and Advancing Sustainable Development is \$1.91 billion, an increase of \$140.3 million over the FY 2016 Enacted Budget and 3,813.0 FTE, an increase of 4.0 FTE.

FY 2017 Major Changes

The FY 2017 request will continue to focus on FY 2016's top priority work of communities, hazardous waste cleanup, and sustainability. Certain reductions were needed to redirect funding to cover fixed costs increases and address emerging cybersecurity issues. Specific changes are discussed below:

Communities

Communities are at the front line when it comes to environmental challenges, including those stemming from climate change. In FY 2017, the EPA will request increased resources for the following activities: 1) conducting resiliency planning exercises and capacity building in Alaska Native Villages; 2) expanding technical assistance for communities under the *Making a Visible Difference in Communities* Cross-Agency Strategy to support an integrated approach to implementing sustainability principals at the local level (+\$2.6 million); 3) building on the agency's successful Lean (+\$2.4 million) and program evaluation program by providing increased funding for program evaluations (+\$700 thousand) to support business process improvements across the agency's programs and find efficiencies to benefit the agency and its stakeholders; and 4) providing non-EPA "Circuit Riders" to provide on-the-ground technical assistance to multiple communities who will work with the Administration's existing Place Based Climate Action Champions as well as support the agency's multi-media climate mitigation efforts (+\$6.5 million). In addition, the EPA will continue to build on work already underway to support environmentally overburdened and economically distressed communities (+\$6.4 million). The EPA will focus on

delivering technical support, providing grants to states, and establishing measures and metrics. This work will maximize alignment and leveraging of resources to more effectively and efficiently deliver on-the-ground results in communities.

Brownfields

In FY 2017, there is a \$12.1 million increase in brownfields resources. This increase will provide funding to communities for environmental revitalization and economic redevelopment efforts to work together to plan, assess, cleanup, and reuse brownfields, and to prioritize ongoing efforts to target Brownfields work toward small and rural communities, and fund new Tribal grantees. Specifically within this increase, resources will support area-wide planning (AWP) grants as part of the Administration's POWER+ initiative, additional direct assessment grants, Targeted Brownfield Assessments in communities without access to other assessment resources, increased support for community brownfield revolving loan funds (RLFs), and the assessment and cleanup of petroleum contaminated brownfields sites.

Superfund Remedial

In FY 2017, an increase of \$20 million will improve the agency's ability to continue essential ongoing fund-financed projects, maximize the preparation of "shovel-ready" projects, and provide funding (thus reducing the backlog) for new construction projects. The program will continue to manage the existing backlog of projects and will continue to pursue other resources, such as potentially responsible parties and special accounts.

Research: Sustainable and Healthy Communities (SHC)

In FY 2017, the Sustainable and Healthy Communities (SHC) program, funded at \$146.7 million, will continue to support the EPA's program offices and state and Tribal partners in protecting and restoring land, and providing community decision makers with decision tools to support community health and well-being.

Agency Priority Goals

As part of the EPA's FY 2014-2018 Strategic Plan, the EPA established a set of FY 2014-2015 Agency Priority Goals (APG). The agency made 21,836 sites ready for anticipated use in FY 2014-2015, exceeding its FY 2014-2015 APG of 18,970. In FY 2017, the agency will build on this progress under its updated APG for FY 2016-2017:

Clean up contaminated sites to enhance the livability and economic vitality of communities. By September 30, 2017, an additional 18,600 sites will be made ready for anticipated use (RAU) protecting Americans and the environment one community at a time. RAU is an indicator that the local, state, or federal agency has determined that cleanup goals and engineering and institutional controls have been implemented for the media that affects current and reasonably anticipated future use so that the sites are available for communities to use or reuse.

All of the EPA's cleanup programs (Superfund, RCRA Corrective Action, Brownfields, and LUST) contribute to this APG and take positive action to protect human health and the environment through the cleanup and revitalization of contaminated properties.

FY 2017 Activities

In FY 2017, the EPA will work to preserve and restore the nation's land by ensuring proper management of waste and petroleum products, reducing waste generation, increasing recycling and by supporting its cleanup programs and oversight of oil and chemical facilities. These efforts are integrated with the agency's efforts to promote sustainable and livable communities. Work under Goal 3 supports four objectives: 1) Promote Sustainable and Livable Communities, 2) Preserve Land; 3) Restore Land; and 4) Strengthen Human Health and Environmental Protection in Indian Country.

***Objective 1: Promote Sustainable and Livable Communities.** Support sustainable, resilient, and livable communities by working with local, state, Tribal, and federal partners to promote smart growth, emergency preparedness and recovery planning, redevelopment and reuse of contaminated and formerly contaminated sites, and the equitable distribution of environmental benefits.*

The FY 2017 request for Promoting Sustainable and Livable Communities is \$481.5 million, an increase of \$49 million above the FY 2016 Enacted Budget and 1,042.3 FTE, an increase of 4.8 FTE. The EPA supports the goals of urban, suburban and rural communities to grow in ways that improve their residents' environment, health, and quality of life. With the support of partners across all levels of government, communities can grow in ways that also strengthen the economy, help them adapt to climate change, improve their resiliency to disasters, use public resources more efficiently, revitalize neighborhoods, and improve access to jobs and amenities. By making sustainable infrastructure investments, communities can build innovative and functional systems on neighborhood streets and sidewalks to manage stormwater run-off and still provide easy access for pedestrians, bicyclists, on-street parking and other beneficial uses. Under local planning and zoning codes that account for the environmental impacts of development, the private sector can more easily construct market-ready "green" buildings serving a range of housing needs. Communities also can benefit from tools, technology and research that better engage citizens and inform local decision making to support smart and sustainable growth.

In FY 2017, the EPA will continue to use multiple approaches to promote sustainable, healthier communities and protect vulnerable populations and disproportionately impacted low-income, minority, and Tribal communities. The agency is focused on threats to sensitive populations, such as children, the elderly, and individuals with chronic diseases.

Brownfields

The EPA's Brownfields program is funded at about \$165.4 million, contributing significantly to the agency's cross-agency strategy, *Making a Visible Difference in Communities*. This program supports states, local communities, and tribes work to assess and cleanup sites within their jurisdiction and return them to productive reuse. The Brownfields program also helps address

climate change by ensuring that potential impacts are taken fully into account when cleanups are planned and implemented. The Brownfields program works closely with communities like Waterbury, Connecticut, where grants to redevelop brownfields resulted in the completion of a new public park, an urban garden and greenhouse facility, and the creation of an industrial commons which brought new manufacturing jobs into the city. Many of these projects in EPA's Region 1 also have helped employ local workers trained through the EPA's Brownfields job training program.

In FY 2017, the EPA plans to award approximately 97 assessment cooperative agreements (estimated \$24.0 million) that recipients may use to inventory, assess, and conduct cleanup and reuse planning at brownfields sites. In FY 2017, the EPA expects to continue the Assessment Coalition option which allows three or more eligible entities to submit one grant proposal for up to \$600 thousand to assess sites within the assessment coalition members' area. This level of assessment funding will lead to approximately 582 site assessments in the three years following the awards. Funding also will support approximately 38 direct cleanup cooperative agreements (estimated \$7.5 million) to enable eligible entities to clean up properties that the recipient owns. This funding will lead to approximately 38 sites cleaned up. The agency will award direct cleanup cooperative agreements of up to \$200 thousand per site to eligible entities and non-profits.

Funding also will support assessment and cleanup of abandoned underground storage tanks (USTs) and other petroleum contamination found on brownfields properties (estimated \$22.5 million) for up to approximately ten Targeted Brownfields Assessments and approximately 112 brownfields assessments, and RLF and cleanup cooperative agreements. The Environmental Workforce Development and Job Training (EWDJT) cooperative agreements (estimated \$3.0 million) will provide funding for approximately 15 cooperative agreements of up to \$200 thousand each. The next grant competition for RLF cooperative agreements will occur in FY 2018. In FY 2017, supplemental funding will support the re-capitalization of up to 56 high-performing RLF cooperative agreements (estimated at \$14.0 million) to enable the recipients to make loans and sub-grants to clean up brownfield properties.

Chemical Facility Safety

In FY 2017, the EPA requests \$23.7 million for the State and Local Prevention and Preparedness program, an increase of \$8.4 million from the FY 2016 Enacted Budget. This critically needed increase will provide crucial resources to ensure the safety of communities adjacent to the 12,500 chemical facilities located across the country. While the agency has initiated some work within current resources, additional funding is necessary to improve chemical and facility safety and security and other activities related to the President's Executive Order on Improving Chemical Facility Safety and Security.²⁷ In addition, this increase will support compliance education for the first phase of the RMP regulatory changes, outreach efforts to engage Local Emergency Planning Committees (LEPCs), data sharing, and inspections. There is a critical need for the agency to continue efforts to prevent and respond to accidental releases of harmful substances by developing clear authorities and training personnel. Accidents reported to the EPA since 2005 by the current universe of Risk Management Program facilities have resulted in approximately 64 worker and

²⁷ See, Executive Order 13650: Improving Chemical Facility Safety and Security issued August 1, 2013 and Actions to Improve Chemical Facility Safety and Security – a Shared Commitment report issued May 2014.

public deaths, over 1,700 injuries, nearly 350,000 people sheltered in place, and more than \$2.5 billion in on-site and off-site damages.²⁸ States and communities often lack the capacity needed to prepare for and/or respond to these emergencies or to prevent them from happening. The request for additional funds will support the EPA's efforts to help these communities build that capacity.

Smart Growth

The Smart Growth program helps community and government leaders protect the environment and public health, build the economy, and improve the quality of people's everyday lives by making smart growth and sustainable design practices commonplace. Also, through the Partnership for Sustainable Communities, in its fifth year, EPA's Smart Growth program works with the U.S. Department of Transportation (DOT) and the U.S. Department of Housing and Urban Development (HUD) to align housing, transportation, and infrastructure investments and policies, and build capacity in communities to grow in a more sustainable and resilient manner. This program focuses on streamlining, concentrating, and leveraging state and federal assistance in urban, suburban, and rural communities that offer the greatest opportunity for development that will deliver environmental and economic benefits, and offer protection against the impacts of climate change.

The Smart Growth program helps community and government leaders meet environmental standards through sustainable community and building development, design, policies, and infrastructure investment strategies. The program does this by: providing technical assistance to states, local and Tribal governments; conducting research and developing tools that help communities see the connection between development and the environment, the economy, and public health; and engaging, leveraging and aligning community-based activities and allotments with other federal agencies. In FY 2017, the program will continue to innovate and use new mechanisms to address the growing demand from communities for more direct technical assistance, including in rural areas, in areas that are disadvantaged, or in areas that have been adversely affected by contamination and environmental degradation.

Environmental Justice

In FY 2017, the EPA will continue to enhance capabilities to engage communities and support their ability to be full partners in agency programs. The Environmental Justice (EJ) program aims to make a visible difference in communities by working to provide holistic central mechanisms to support, assist, and engage with overburdened communities and vulnerable populations, including Tribal populations, rural communities and children. The goal is to provide communities with the support needed in order to leverage and work in conjunction with other agency and other federal programs such as Brownfields assessment and cleanup, Urban Waters, Sustainable Communities, and Brownfields Area-Wide Planning. This approach is in keeping with the EJ program's overall emphasis of fostering greater collaboration and leveraging of resources across EPA and the rest of the federal family. Supporting the creation of such collaborations in vulnerable and overburdened communities will help communities to have capacity and skills and to benefit from specialized agency programs. With a focus on peer-to-peer learning and collaboration, the EPA will make critical use of the successful support and engagement that these programs have achieved, by

²⁸ The EPA's RMP database.

leveraging those community experiences in a broader yet more focused manner. This approach is also consistent with feedback received through discussions with community leaders. Within the EJ program, the agency will continue to build community capacity and provide technical assistance and training to overburdened and vulnerable communities. In FY 2017, the proposed budget for Environmental Justice is \$15.9 million.

Objective 2: Preserve Land. *Conserve resources and prevent land contamination by reducing waste generation and toxicity, promoting proper management of waste and petroleum products, and increasing sustainable materials management.*

The FY 2017 request for Preserving Land is \$240.7 million, an increase of \$19.5 million over the FY 2016 Enacted Budget and 573.9 FTE, an increase of 4.2 FTE.

RCRA Waste Management

The FY 2017 budget provides nearly \$70.4 million to the RCRA Waste Management program.²⁹ The RCRA program is critical to comprehensive and protective management of solid and hazardous materials for the entire lifecycle. Resources for state implementation are provided through the Hazardous Waste Financial Assistance categorical grant. In FY 2017, RCRA permits for approximately 20,000 hazardous waste units (such as incinerators and landfills) at 6,600 treatment, storage, and disposal facilities will be issued, updated or maintained. The EPA provides leadership, work-sharing, and support to the states and territories authorized to implement the permitting program and directly implements the entire RCRA program in Iowa and Alaska.³⁰ The EPA is facing an increasing number of state implementation support requests, including help addressing complex regulatory and statutory interpretation issues. Requests for this type of support are expected to continue in FY 2017. The EPA's long-term goal, described in the agency's FY 2014–2018 Strategic Plan, is to ensure 500 additional facilities receive new or updated controls. Since FY 2010, 750 facilities received new or updated controls; 120 of these were accomplished in FY 2015. In FY 2017, the EPA will work with states to meet the FY 2017 target of implementing permits (both initial approved controls and updated controls) at 115 RCRA hazardous waste management facilities. Permit maintenance, including permit modification, ensures that the permitted conditions continue to be protective and prevent release.

The EPA prioritizes polychlorinated biphenyl (PCB) cleanup approvals and will expedite high priority cleanups or address those unaddressed in a timely fashion. The EPA also will support national PCB cleanup and disposal activities by: assessing emerging technologies and issuing approvals (no states can be authorized for PCBs); and evaluating PCB wastes against the criteria specified in the Toxic Substance Control Act (TSCA). This effort will be tracked by a performance measure that was implemented in FY 2014 to track all approvals (i.e., cleanup, storage and disposal activities) issued by the EPA under TSCA. The EPA issues approximately 50 disposal and storage approvals and 150 cleanup approvals per year. The annual target for FY 2017 is 200 approvals for the comprehensive measure for cleanups, disposal, and storage activities. The EPA issued 1,275 PCB approvals between FY 2008 and FY 2015.

²⁹ This includes the \$7.4 million requested for the e-Manifest account.

³⁰ For additional information, refer to: <http://www.epa.gov/hwpermitting>.

Hazardous Waste Electronic Manifest

On October 5, 2012, the President signed the Hazardous Waste Electronic Manifest Establishment Act, requiring the EPA to develop and maintain a hazardous waste electronic manifest system. The system will be designed to, among other functions, assemble and maintain the information contained in the estimated five million manifest forms accompanying hazardous waste shipments across the nation. In FY 2013, the EPA initiated the effort to develop a program that provided for the submission of information electronically, as well as in paper form. This commitment at the federal level will significantly reduce the time and costs for state regulators and regulated entities associated with submitting, maintaining, processing, and publishing data from hazardous waste manifests. When fully implemented, the electronic hazardous waste manifest (e-Manifest) program will reduce the reporting burden for firms regulated under RCRA's hazardous waste provisions by approximately \$75 million annually.

In FY 2017, the EPA is providing \$7.4 million within the RCRA Waste Management program for the e-Manifest account, to continue work on the e-Manifest system. This funding will allow development of the e-Manifest IT system to continue through to system deployment anticipated to occur in FY 2018. The EPA's new digital services effort is helping to design an agile development strategy for this important project. In FY 2017, the agency will continue to build on the framework which will evolve into what is termed a minimum viable product (MVP), while continuing to engage often with users and stakeholders and hosting at least one meeting of the e-Manifest Advisory Board. Also by FY 2017, the EPA will have awarded one or more major contract vehicles that will be used to complete system development, deploy the system nationally, and conduct follow on operations, maintenance, and enhancements. In addition, the EPA will complete the final User Fee rule, which will be published approximately 90 days before national system deployment (anticipated in FY 2018).

Sustainable Materials Management (SMM)

In FY 2017, the EPA will focus a total of \$1.6 million to support the EPA's investment in climate mitigation through waste program activities to reduce greenhouse gas (GHG) emissions. The agency's air programs are making progress addressing GHG emissions from power plants, vehicles, oil, and gas operations; however, further efforts are required to put the country on an emissions trajectory consistent with the President's long-term climate goals. The EPA will continue to advance SMM practices and a cradle-to-cradle perspective representing an important emphasis shift from waste management to materials management. The agency's approach to SMM integrates the safe reuse of materials with economic opportunity. In FY 2017, the EPA will utilize SMM to offset the use of virgin resources by an estimated 9,550,000 tons of materials and products. The EPA will continue to promote the SMM approach in high priority areas (e.g., Sustainable Food Management, Used Electronics, and Federal Government), which are selected based on an analysis of opportunities for reducing environmental impacts in *Sustainable Materials Management: The Road Ahead*.³¹ In FY 2017, the EPA will continue to lead by example, and will help other federal agencies adopt SMM approaches and promote the reduction of GHG emissions, which furthers the goals of Executive Order 13514 ("Federal Leadership in Environmental,

³¹ U.S. EPA OSWER ORCR. Sustainable Materials Management: The Road Ahead. June 2009
<http://www.epa.gov/epawaste/consERVE/smm/pdf/vision2.pdf>.

Energy, and Economic Performance”), and also saves money. For example, the EPA estimates that the national implementation of the Federal Green Challenge has saved the taxpayers more than \$24 million as of the end of FY 2014. The EPA also will explore the application of the SMM approach into other high priority sectors, based on lessons learned from the first two years of the national SMM program and re-evaluation of *The Road Ahead*.

LUST Prevention

There is a strong relationship between successfully managing the LUST clean up backlog and reducing the number of new releases through the prevention program. Since 2007, the EPA has placed an increased emphasis on monitoring compliance through increased frequency of inspections and other Energy Policy Act (EPAct) provisions. During this time, compliance rates have increased by 9.4 percent. The continued reduction in confirmed releases will remain a critical component in backlog reduction (which is at the lowest level since 1990), but maintaining cleanup progress is essential as well. In FY 2015, the EPA increased to 72.6 percent the number of UST facilities that were in significant operational compliance with leak prevention and detection requirements. The collaboration between the EPA and states and tribes contributes to these efforts and supports the cross-agency strategy for A New Era of State, Local, Tribal, and International Partnerships.

In FY 2017, the EPA will provide nearly \$27.9 million to continue assisting states in complying with release prevention activities authorized by the EPAct. States rely primarily on federally funded assistance agreements to maintain inspection frequency and ensure compliance which will help prevent future confirmed releases. States may use money from LUST assistance agreements for inspections, other release prevention and compliance assurance activities for federally-regulated USTs, and enforcement activities related to release prevention.

Objective 3: Restore Land. *Prepare for and respond to accidental or intentional releases of contaminants and clean up and restore polluted sites for reuse.*

The FY 2017 request for Restoring Land is nearly \$1.07 billion, an increase of \$37.8 million over the FY 2016 Enacted Budget and 2,079.0 FTE, a decrease of 9.4 FTE.

Land Cleanup and Revitalization

In addition to promoting sustainable and livable communities, the EPA’s cleanup programs (e.g., Superfund Remedial, Superfund Federal Facilities , Superfund Emergency Response and Removal, RCRA Corrective Action, Brownfields, the Toxic Substances Control Act, PCB Cleanup and Disposal, and LUST Cooperative Agreements) and its partners are taking proactive steps to facilitate the cleanup and revitalization of contaminated properties. To support the Land Revitalization Initiative, in 2004 the EPA created the Land Revitalization Agenda³² to integrate reuse into the EPA's cleanup programs, establish partnerships, and help make land revitalization part of EPA's organizational culture.

³² Additional information on this agenda can be found on http://www.epa.gov/landrevitalization/agenda_full.htm.

In FY 2017, the EPA will continue to help communities clean up and revitalize once productive properties by: removing contamination; fostering ecologic habitat enhancements; enabling economic development; taking advantage of existing infrastructure; and maintaining or improving quality of life. There are multiple benefits associated with cleaning up contaminated sites: reducing mortality and morbidity risk; preventing and reducing human exposure to contaminants; making land available for commercial, residential, industrial, or recreational reuse; and promoting community economic development.

Working collaboratively with partners across the country, the EPA engages with communities in site cleanup decisions, fosters employment opportunities in communities during and after remedy construction, preserves green infrastructure, promotes the redevelopment of blighted areas, and protects human health and the environment. A peer-reviewed study found that residential property values within three miles of Superfund sites increased 18.6-24.5 percent when sites were cleaned up and deleted from the NPL.³³ Further, at more than 850 Superfund sites, the EPA's engagement has facilitated the sites' productive reuse. At 450 of the Superfund sites where reuse is occurring, economic data from FY 2014 demonstrates there were approximately 3,400 businesses generating \$31 billion³⁴ in sales. These businesses employ over 89,000 people, who earn a combined income of \$6.0 billion.³⁵ These studies support the agency strategy to advance the use of evidence in decision-making.

Superfund properties are often reused as commercial facilities, retail centers, government offices, residential areas, industrial and manufacturing operations, and parks and recreational areas. Some of the reuse can play a role in economically revitalizing a community. In the EPA's Region 4, on-site businesses and organizations on current and former Superfund sites provide over 6,200 jobs and contribute an estimated \$334 million in annual employment income for residents across the Southeast. Restored on-site properties in Region 4 generate about \$4.4 million in annual property tax revenues for local governments.³⁶

A cumulative total of 1,714 sites have been listed on the NPL, including 391 which have now been deleted. Sites are placed on the NPL when the presence of contamination, often from complex chemical mixtures of hazardous substances, has impacted groundwater, surface water, and/or soil. The precise impact of many contaminant mixtures on human health remains uncertain; however, substances commonly found at Superfund sites have been linked to a variety of human health problems, such as birth defects, infertility, cancer, and changes in neurobehavioral functions. By the end of FY 2017, the agency plans to achieve control of all identified unacceptable human exposures at 18 additional sites (compared to FY 2015 accomplishments), bringing the program's cumulative total of Human Exposure Under Control (HEUC) sites to 1,457. Additionally, the agency expects to achieve Groundwater Migration Under Control (GMUC) at 26 additional sites by the end of FY 2017 (compared to FY 2015 accomplishments), bringing the program's

³³ Gamper-Rabindran, Shanti and Christopher Timmins. 2013. "Does cleanup of hazardous waste sites raise housing values? Evidence of spatially localized benefits," *Journal of Environmental Economics and Management* 65(3): 345-360, <http://dx.doi.org/10.1016/j.jeem.2012.12.001>.

³⁴ The 2014 sales data were revised from the FY 2016 congressional justification due to a correction.

³⁵ For more information on Redevelopment Economics and in depth case studies please use the link below. <http://www.epa.gov/superfund/programs/recycle/economicimpacts.html>.

³⁶ Statistics are located in the Redevelopment Economics source above.

cumulative total to 1,164 sites. As of the end of FY 2015, the EPA controlled groundwater migration and human exposures at 1,138 and 1,439 sites, respectively.

The FY 2017 budget provides \$185.2 million for the Superfund Emergency Response and Removal program. The agency is the lead Federal response official for emergency releases of hazardous substances in the inland zone, including the transportation network. In FY 2017, the EPA will continue to support all emergency actions and focus on encouraging viable Potentially Responsible Parties (PRPs), when available, to conduct removal actions. In FY 2017, the EPA will complete or oversee a total of 275 Superfund-lead and PRP-lead removal actions (including voluntary, Administrative Order on Consent, and Unilateral Administrative Order actions).

The Superfund Remedial program is funded at \$521 million in FY 2017. The agency will continue to give priority to completing projects at various stages in the response process, such as investigation, remedial design, and remedy construction. This will help support community revitalization and economic redevelopment and will provide funding to initiate cleanup construction work at several construction projects. In FY 2017, the annual targets will be the same as FY 2016, 675 remedial site assessment completions, 105 remedial action project completions, 13 construction completions, and 45 site-wide ready for anticipated use.

The FY 2017 budget provides \$37 million for the RCRA Corrective Action program. The EPA works in partnership with states, having authorized 44 states and one territory to directly implement the corrective action program.³⁷ Resources for state implementation are provided through Hazardous Waste Financial Assistance categorical grants. This program is responsible for overseeing and managing cleanups that protect human health and the environment at active RCRA sites. The agency provides leadership and support to its state partners and serves as lead regulator at a significant, and increasing, number of facilities. States have been challenged in the cleanup program due to downsizing and are looking to the federal program for assistance. As a result and at the request of states, the EPA has resumed, where resources allow, work previously agreed to by states under work-sharing agreements. This trend has been increasing, particularly for sites that have complex issues³⁸ or for more specialized tasks such as ecological risk assessments.

Through its RCRA Corrective Action program, the EPA and its state partners will issue, update, or maintain RCRA permits for 3,779 hazardous waste facilities. The facilities are a subset of approximately 6,600 sites with corrective action obligations and include some of the most highly contaminated, technically challenging, and potentially threatening sites the EPA confronts in any of its cleanup programs.³⁹ As of the end of FY 2015, there remained a significant workload to be addressed. Only 28 percent of the 3,779 facilities reached the end goal of completing cleanup, so this left over 2,700 facilities still needing oversight and technical support to reach their final goal of completing site-wide cleanup objectives. Through FY 2015, the EPA controlled human exposures and groundwater migration at 90 and 82 percent of RCRA corrective action facilities, respectively. A critical component of the program is to implement final remedies. For example, in Region 3 over 40 remedies were implemented, enabling 6,500 acres to be ready for reuse. The

³⁷ State implementation of the CA Program is funded through the STAG (Program Project 11) and matching State contributions.

³⁸ For example, vapor intrusion, wetlands contamination or extensive groundwater issues.

³⁹ There are additional facilities that have corrective action obligations that the EPA does not track under GPRA, as they are typically smaller, less significant facilities or sites. The EPA recognizes that the total universe of such facilities or sites "subject to" corrective action universe is between five and six thousand facilities or sites.

sites are now being used for a new 22-story office tower, a casino and a potential multi-billion dollar economic development for the Sparrows Point, Maryland facility.

In FY 2017, the EPA will focus resources on those sites that present the highest risk to human health and the environment and implement actions to end or reduce these threats. The EPA will also place additional focus on identifying facilities where the corrective action process can be considered completed (i.e., where cleanup performance standards have been met, or no further cleanup action is necessary). These activities will be consistent with the programmatic response developed by the agency after a 2011 Government Accountability Office report on the RCRA corrective action program, which also is reflected in revisions to targets for three RCRA Corrective Action performance measures.

LUST Cleanup

The EPA's LUST cleanup strategy is to prevent future releases of wastes in the environment. Accidents can happen, but proper prevention leads to fewer releases. In FY 2017, the UST program will primarily focus on: inspections; technical assistance; financial assurance mechanisms; safe transition to alternative fuels; implementation in Indian country; bringing petroleum brownfields properties into productive use, and implementing the revised UST regulations.

The UST program has achieved significant success in closing releases since the beginning of the program. Of the approximately 528,000 releases reported since the beginning of the UST program in 1988, approximately 456,000 (or 86.4 percent) have been cleaned up through FY 2015. This means approximately 72,000 releases remain that have not reached cleanup completion. In addition, even though the EPA and our partners have made major progress in reducing the number of new releases that add to this cleanup backlog, thousands of new releases are discovered each year.

However, while the UST program continues to make progress decreasing the overall backlog, the pace of cleanups is declining. In FY 2015, the program completed 9,869 LUST cleanups. Achieving these cleanup rates in the future will be more challenging due to the complexity of remaining sites, an increased state workload, a decrease in available state resources and the increasing costs of cleanups. In FY 2011, the LUST program completed a study of its cleanup backlog. The EPA's backlog study helped identify potential strategies to address the remaining UST releases.⁴⁰ The EPA is working with states to develop and implement specific strategies and activities applicable to their particular sites to reduce the UST releases remaining to be cleaned up.

Oil Spill Prevention

The discharge of oil into U.S. waters can threaten human health, cause severe environmental damage, and create financial loss to businesses and the public. The Oil Spill program helps protect U.S. waters by effectively preventing, preparing for, responding to, and monitoring oil spills. The EPA serves as the lead responder for cleanup of all inland zone spills, including transportation-

⁴⁰ For more information, please see *The National LUST Cleanup Backlog: A Study of Opportunities* at <http://www.epa.gov/swrust1/cat/backlog.html>.

related spills from pipelines, trucks, and other transportation systems, and provides technical assistance and support to the U.S. Coast Guard for coastal and maritime oil spills. In FY 2017, the EPA will continue to focus efforts on oil spill prevention, preparedness, compliance assistance, and enforcement activities associated with the more than 600 thousand non-transportation-related oil storage facilities that the EPA regulates through its Spill Prevention Control and Countermeasure (SPCC) Program. In addition, the agency will finalize development and begin implementation of the National Oil Database including identifying requirements for electronic submission of Facility Response Plans (FRP) in order to create reporting efficiencies for the agency, states, local government and industry.

In FY 2017, the EPA requests a total of \$20.5 million for the Oil Spill Prevention, Preparedness and Response program, a \$6.1 million increase over the FY 2016 Enacted Budget. These additional funds will focus on training emergency responders given the increased risks of spills associated with the rapid expansion in production and transportation of crude shale oils. Increased domestic production rates and increased shipment of oil by rail, combined with the volatility hazards associated with crude shale oil, pose new challenges for the EPA and first responders. These oils, such as Bakken and Dilbit, are particularly risky due to their highly explosive nature. Additionally, the EPA will perform inspections of regulated high-risk oil facilities to better implement prevention approaches and to bring into compliance 60 percent of SPCC and FRP inspected facilities found to be non-compliant during the FY 2010 through FY 2016 inspection cycle. The EPA will emphasize emergency preparedness, particularly through the use of unannounced drills and exercises, to ensure facilities and responders can effectively implement response plans. In FY 2015, the EPA was able to bring 79 percent of FRP and 74 percent of SPCC facilities into compliance due to the development of improved guidance and procedures. The program will focus resources on bringing non-compliant facilities into compliance.

Homeland Security

The EPA's Homeland Security work is an important component of the agency's prevention, protection, and response activities. The FY 2017 budget submission includes \$30.3 million to: maintain agency capability to respond effectively to incidents that may involve harmful chemical, biological, and radiological (CBR) substances; maintain the Environmental Response Laboratory Network (ERLN); develop and maintain agency expertise and operational readiness for all phases of consequential management following a CBR incident, specifically with respect to environmental characterization, decontamination, laboratory analyses and clearance; maintain the Emergency Management Portal (EMP); and conduct CBR training for agency responders to improve CBR preparedness.

Objective 4: Strengthen Human Health and Environmental Protection in Indian Country. *Directly implement federal environmental programs in Indian country and support federal program delegation to tribes. Provide tribes with technical assistance and support capacity development for the establishment and implementation of sustainable environmental programs in Indian country.*

The FY 2017 request for Strengthening Human Health and Environmental Protection in Indian Country is \$121.4 million, an increase of nearly \$34.0 million over the FY 2016 Enacted Budget.

Few tribes have sought federal environmental program implementation authorities. Small and understaffed Tribal environmental departments, a lack of quality baseline data, and the nuances of Indian law all present challenges to greater environmental protection in Indian country. The EPA Indian Environmental General Assistance Program (GAP) is the primary financial assistance program available to tribes to assist with capacity building and the development of environmental protection programs in Indian country. In FY 2017, the EPA will continue to significantly support environmental capacity in Indian country by providing \$96.4 million under the GAP grants. The request includes a \$30.9 million increase. This will allow tribes to develop multiple media-specific environmental programs and also will ensure adequate resources for grantees to successfully implement the EPA-Tribal Environmental Plans (ETEPs). Tribal resources are essential to address long-standing challenges to recruit and retain qualified environmental professionals to remote Indian country locations and will assist tribes with the implementation of environmental regulatory programs. In addition, in FY 2017, the agency will continue to support environmental research projects with Tribal colleges and universities that will expand capacity to address issue of concern in Tribal communities. These Tribal EcoAmbassador projects⁴¹ have benefitted the professors and students involved, while demonstrating an ability to focus resources and leverage support within Tribal communities while strengthening Tribal youth.

GAP is a key means by which tribes leverage other EPA, federal, and Tribal funding to increase the overall level of environmental and public health protection per dollar invested. GAP also supports Tribal capacity to directly implement environmental regulatory programs in Indian country consistent with federal environmental law; there are currently 105 “treatment as a state” (TAS) Tribal regulatory approvals in place throughout the nation. Examples of activities eligible for funding under EPA’s GAP include: assessing the status of a tribe’s environmental conditions; developing Tribal environmental laws, codes, and ordinances; developing Tribal capacity to administer environmental regulatory programs that the EPA may delegate to a tribe; conducting public education and outreach efforts to ensure that Tribal communities are informed and able to participate in environmental decision-making; establishing effective communication and coordination programs among federal, state, local, and Tribal environmental officials; and developing the ability to meaningfully participate in Tribal consultation activities with the EPA on environmental issues.

The EPA will continue to support the success of the GAP by continuing to implement new GAP guidance and applying nationally consistent Tribal capacity indicators. The GAP guidance promotes long-range ETEPs to serve as the basis for GAP financial assistance work plans. The EPA also is developing new performance measures based on Tribal capacity indicators to better track the effectiveness of the EPA’s technical assistance and other support to tribes as well as to monitor the progress of tribes to develop their own environmental programs. The magnitude of Tribal environmental and human health challenges reinforces the importance of the EPA’s commitment to maintaining strong environmental protections in Indian country.

The EPA has a long history of working with other federal agencies to address shared environmental and human health concerns in Indian country. The EPA, the Department of the Interior, the Department of Health and Human Services, the Department of Agriculture, and the Department of

⁴¹ For more information, please refer to <http://www.epa.gov/ecoambassadors/tribal>.

Housing and Urban Development have worked through Memoranda of Understandings (MOU) as partners to improve infrastructure on Tribal lands. All five federal partners renewed their commitment to the Infrastructure Task Force in 2013 by signing an MOU to continue federal coordination in delivering water infrastructure, wastewater infrastructure and solid waste management services to Tribal communities. The Infrastructure Task Force will build on prior partner successes, including improved access to funding and reduced administrative burden for Tribal communities through the review and streamlining of agency policies, regulations, and directives as well as improved coordination of technical assistance to water service providers and solid waste managers through regular coordination meetings and web-based tools.

The lack of access to safe drinking water and basic sanitation in Indian Country continues to threaten the public health of American Indian and Alaska Native (AI/AN) communities. According to 2010 data from the Indian Health Service (IHS), approximately 12 percent of AI/AN homes do not have safe water and/or basic sanitation facilities. The efficiencies and partnerships resulting from the Infrastructure Task Force will directly assist tribes with their infrastructure needs. In Alaska, 13 percent of native and rural households are without complete indoor plumbing, a much higher figure than the national average of 0.4 percent (US Census Survey 2012) of occupied homes that lacked complete indoor plumbing. As a result, 2008 data indicates that the age adjusted infectious disease hospitalization rate for Alaska natives was 28 percent higher than the national average, with a higher disparity observed for infants. Infectious disease hospitalizations account for approximately 22 percent of all Tribal and ANV hospitalizations,⁴² where lower respiratory tract infections, skin and soft tissue infections, and infections of the kidney, urinary tract, and bladder contribute to most of these health disparities.⁴³ For more information, please see the web link: <http://www.epa.gov/tribalportal/trprograms/infra-water.htm>.

On May 4, 2011, the EPA released its policy on consultation and coordination with Indian tribes. The EPA is among the first of the federal agencies to finalize its consultation policy in response to President Obama's first Tribal leaders summit in November 2009 and, following the issuance of Executive Order 13175, to establish regular and meaningful consultation and collaboration with Tribal officials in the development of federal policies that have Tribal implications.

Research

In FY 2017, the Sustainable and Healthy Communities (SHC) program, funded at \$146.7 million, will continue to support the EPA's program offices and state and Tribal partners in protecting and restoring land, and providing community decision makers with decision tools to support community health and well-being.

⁴² Robert C. Holman, Anianne M Folkema, Rosalyn J. Singleton, John T. Redd, Krista Y. Christensen, Claudia A Steiner, Lawrence B Schonberger, Thomas W. Hennessy, James E. Cheek (2011), *Disparities in Infectious Disease Hospitalizations for American Indian/Alaska Native People*, Public Health Rep. 2011 Jul-Aug; 126(4): 508–521, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3115210/>.

⁴³ Thomas W. Hennessy, Troy Ritter, Robert C. Holman, Dana L. Bruden, Krista L. Yorita, Lisa Bulkow, James E. Cheek, Rosalyn J. Singleton, and Jeff Smith. The Relationship Between In-Home Water Service and the Risk of Respiratory Tract, Skin, and Gastrointestinal Tract Infections Among Rural Alaska Natives. *American Journal of Public Health*: November 2008, Vol. 98, No. 11, pp. 2072-2078. doi: 10.2105/AJPH.2007.115618.

In FY 2017, the SHC program will continue to invest in resources in ongoing research to develop models, databases, metrics and other decision support tools that will empower communities to make decisions regarding sustainable approaches to environmental protection. This will allow the EPA to increase its capacity to provide community-based decision support tools which consider ecosystem goods and services, contaminated sites, multimedia pollutants within environmental justice communities, and the beneficial use of sustainable materials.

The work of the SHC research program falls into four inter-related themes:

- *Decision Support and Innovation* will use decision science, interactive social media, spatial analyses, and sustainability assessment methods to provide communities with tools to frame their decision options, outcomes and potential costs and benefits. For example, the community-based evaluation of ecosystem services in Guanica Bay, Puerto Rico, focused on the use of decision support tools to help the local community better understand its needs and constraints. The use of decision support tools assisted the community in evaluating their options and permits a local prioritization of actions based on a full understanding of the potential consequences of their decisions.
- *Community Well-being: Public Health and Ecosystem Goods and Services* will utilize the sciences of ecosystem services and human health to enable communities to assess how the natural and built environment affects the health and well-being of their residents. This research will address impacts in all communities including communities and tribes that are at risk for disproportionate environmental and health impacts. For example, the EPA has been working with the community surrounding Proctor Creek in Atlanta, Georgia to identify solutions to address a host of challenges, including pervasive street flooding, repeated sewage backups, derelict properties, illegal tire dumping, and bacterial contamination in the creek itself. The resulting “Boone Boulevard Green Street Project,” proposed by the City of Atlanta, incorporates green infrastructure elements to reduce stormwater runoff and associated pollution.
- *Sustainable Approaches for Contaminated Sites and Materials Management* will build upon federal, regional and state experiences. This research aims to improve the efficiency and effectiveness of mechanisms that address land and groundwater contamination, including preventing and cleaning up fuel and oil spills. This research also will review and characterize innovative approaches that communities can use to: (1) reduce new sources of contamination; (2) enable recovery of energy, materials, and nutrients from waste; (3) enable brownfields sites to be put to new, economically productive uses that benefit communities; and (4) apply waste management and contaminated sediment remediation technologies in specific geographic locations. For example, analytical ground water models for three-dimensional contaminant transport in aquifers will be developed for predicting contaminant distribution at sites characterized by preferential pathways (high-permeability layers) interacting with surrounding low-permeability zones.
- *Integrated Solutions for Sustainable Outcomes* research will develop methods and data that will allow communities to consider the full costs and benefits of their decisions. For example, SHC will review and characterize systems modeling approaches that

communities can use to account for the linkage among waste and materials management, building codes and zoning for land use planning, transportation options, and provision of infrastructure, including water and energy. For example, SHC is using a holistic systems approach (including modeling) to assess the impacts of nitrogen in ecosystems and communities. The approach will account for linkages between atmospheric deposition, precipitation, agricultural activities, surface water/ground water and community decision making.

The SHC research program will also continue to provide research to EPA's remedial project managers and site managers in the EPA's regional offices, as well as community decision-makers, to improve their ability to weigh alternatives, and make decisions on cleaning up contaminated sites. SHC research will aid the EPA regional offices in developing and evaluating methods, approaches, and models to assess and manage contamination at Superfund sites.

Finally, the SHC program will continue to develop or revise protocols to test oil spill control agents or products for listing on the National Contingency Plan Product Schedule, including dispersants' performance and behavior in deep water and arctic conditions. Additional research outcomes include improved characterization and remediation methods for fuels released from leaking underground storage tank.

**Environmental Protection Agency
FY 2017 Annual Performance Plan and Congressional Justification**

Ensuring the Safety of Chemicals and Preventing Pollution

Reduce the risk and increase the safety of chemicals and prevent pollution at the source

STRATEGIC OBJECTIVES:

- Reduce the risk and increase the safety of chemicals that enter our products, our environment and our bodies.
- Conserve and protect natural resources by promoting pollution prevention and the adoption of other sustainability practices by companies, communities, governmental organizations, and individuals

GOAL, OBJECTIVE SUMMARY

Budget Authority
Full-time Equivalent
(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Ensuring the Safety of Chemicals and Preventing Pollution	\$627,137.7	\$623,248.6	\$679,606.9	\$56,358.3
Promote Pollution Prevention	\$49,655.0	\$50,454.6	\$54,939.3	\$4,484.7
Ensure Chemical Safety	\$577,482.7	\$572,794.0	\$624,667.6	\$51,873.6
Total Authorized Workyears	2,296.2	2,391.0	2,405.0	14.0

Goal 4: Ensuring the Safety of Chemicals and Preventing Pollution

Strategic Goal: *Reduce the risk and increase the safety of chemicals and prevent pollution at the source.*

Introduction

Chemicals are ubiquitous in our everyday lives and products. They are used in the production of everything from our homes and cars to the cell phones we carry and the food we eat. Chemicals often are released into the environment as a result of their manufacture, import, processing, use, and disposal. Vulnerable and underserved populations, including low-income, minority and indigenous populations may be disproportionately impacted by, and thus particularly at risk from, exposure to chemicals.^{44,45,46} In addition, research shows that children receive greater relative exposures to chemicals because they inhale or ingest more air, food, and water on a body-weight basis than adults do.^{47,48,49,50} The FY 2017 funding level for Ensuring the Safety of Chemicals and Preventing Pollution is \$679.6 million, an increase of \$56.4 million over the FY 2016 Enacted Budget .

Under existing Toxic Substances Control Act (TSCA) authorization, the EPA is charged with the responsibility of assessing the safety of commercial and industrial chemicals and acting upon those chemicals if they pose significant risks to human health or the environment. In FY 2017, \$67.2 million is directed to the TSCA Chemical Risk Review and Reduction Program, which will sustain efforts to assess and reduce potential risks from new chemicals before they enter commerce. This increase in funding will continue to support ramping up the program's assessment of existing chemicals, building on the success of FY 2014 and FY 2015, when the first risk assessments on Existing Chemicals under TSCA were completed for five chemicals, the first in 28 years. The program will continue to focus these assessments on TSCA Work Plan and related or similar chemicals, identified as the highest priority for near-term assessment, and will continue work commenced in FY 2015 to act expeditiously, using all available authorities under TSCA, to reduce identified risks. Where data gaps that prevent risk assessments from being completed, the program will seek data to determine the risk of priority chemicals. The EPA also will continue to expand and enhance the quantity, accessibility and usefulness of chemical safety information, thereby building the capacity of the EPA, other regulators, and the public to assess chemical hazards and

⁴⁴ Holistic Risk-based Environmental Decision Making: a Native Perspective
(<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1241171>).

⁴⁵ Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations.

⁴⁶ Interim Guidance on Considering Environmental Justice During the Development of an Action
(<http://www.epa.gov/compliance/ej/resources/policy/considering-ej-in-rulemaking-guide-07-2010.pdf>).

⁴⁷ Guide to Considering Children's Health When Developing EPA Actions: Implementing Executive Order 13045 and EPA's Policy on Evaluating Health Risks to Children
([http://yosemite.epa.gov/ochp/ochpweb.nsf/content/ADPguide.htm/\\$File/EPA_ADG_Guide_508.pdf](http://yosemite.epa.gov/ochp/ochpweb.nsf/content/ADPguide.htm/$File/EPA_ADG_Guide_508.pdf)).

⁵ Holistic Risk-based Environmental Decision Making: A native Perspective
(<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1241171>).

⁴⁹ Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

⁵⁰ Guide to Considering Children's Health When Developing EPA Actions: Implementing Executive Order 13045 and EPA's Policy on Evaluating Health Risks to Children
([http://yosemite.epa.gov/ochp/ochpweb.nsf/content/ADPguide.htm/\\$File/EPA_ADG_Guide_508.pdf](http://yosemite.epa.gov/ochp/ochpweb.nsf/content/ADPguide.htm/$File/EPA_ADG_Guide_508.pdf)).

potential exposures, identify potential risks to human health and the environment, and take appropriate risk reduction action.

The Endocrine Disruptor Screening Program (EDSP), established under authorities contained in the Food Quality Protection Act (FQPA) and the Safe Drinking Water Act (SDWA), is responsible for protecting human health and the environment from risks associated with chemicals with endocrine bioactivity. Under this program, the EPA has introduced groundbreaking new technologies—alternative techniques that use computational toxicology (CompTox) to predict endocrine effects using computer models—allowing the agency to move from screening dozens of chemicals per year to up to 1,000 per year, while moving away from animal testing. While these techniques are first being developed and implemented for endocrine disruptors, they also have potential to shed light on other potential human health and environmental risks identified through toxicity screening.

In FY 2017, the EPA’s pesticide licensing program will continue to evaluate new pesticides before they reach the market and ensure that pesticides already in commerce are safe when used in accordance with the label as directed by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Federal Food, Drug, and Cosmetic Act (FFDCA), and the FQPA. The EPA will register pesticides in a manner that protects consumers, pesticide users, workers who may be exposed to pesticides, children, and other sensitive populations. The program also will continue the registration review process for older pesticides. For all pesticides in review, the EPA will evaluate potential impacts on the environment with particular attention to endangered species and the effects of pesticides on honey bees and other pollinators.

The EPA has a long history of collaboration to address a wide range of domestic and global environmental issues. The EPA envisions that environmental actions in cooperation with international partners can catalyze even greater progress toward protecting our domestic environment. For example, when our trading partners approve the use of new lower-risk pesticides on produce imported from the United States, American farmers can more readily shift toward use of those safer pesticides. In addition, ensuring that trade-related activities sustain environmental protection enhances the ability of our trading partners to protect their environments and develop in a sustainable manner, enhancing other environmental opportunities of mutual interest through effective consultation and collaboration. To advance all of these efforts, the EPA continues to focus on the international priorities of building strong environmental institutions and legal structures, encouraging climate change adaptation and mitigation, improving air quality, expanding access to clean water, reducing exposure to toxic chemicals, and cleaning up e-waste.

Pollution prevention (P2) is central to the EPA’s sustainability strategies. In FY 2017, the EPA will continue to foster the development and increased use of P2 solutions to environmental problems that eliminate or reduce pollution, waste and risks at the source. Examples of such solutions include cleaner production processes and technologies, safer “greener” chemicals, materials and products, and improved practices. The agency employs a variety of approaches to achieve these results, including providing technical assistance to businesses, contributing to the development of environmentally-based production standards and purchasing criteria, offering government recognition of effective environmental stewardship actions and accomplishments and offering grants to states, tribes and other entities that advance P2 objectives.

The National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act require the EPA to review Environmental Impact Statements (EISs). Under NEPA, an EIS is required for major federal actions significantly affecting the human environment. The review of each EIS includes assessing options for avoiding or mitigating environmental impacts while making agency comments available to the public and allowing for public input. In FY 2017, in support of its mission, the program will continue to foster cooperation among federal agencies to ensure compliance with applicable environmental statutes, promote better integration of pollution prevention and ecological risk assessment elements into federal programs, and provide technical assistance in developing projects that prevent adverse environmental impacts.

Major FY 2017 Changes

In FY 2017, increased resources will enable the EPA's Chemical Safety Program to accelerate the pace for completing assessments of TSCA Work Plan and related or similar chemicals, as well as support additional or accelerated risk reduction work where completed assessments have identified risks. The EPA expects to complete risk assessments for 21 of these chemicals in FY 2017 if adequate data on risk are available. These expanded resources will allow EPA to initiate assessment on more chemicals and in turn enable the EPA to make greater progress towards its ambitious target for completing by the end of FY 2018 assessments of all 67 original TSCA Work Plan chemicals that remain on the refreshed list.

Additionally, in FY 2017, the EPA's Chemical Safety Program will expand the role of regional offices in the implementation of TSCA. Currently there are only 3 FTE in the Regional Offices focused on TSCA; this investment will bring that number up to 13 FTE. This expansion will start to close a critical gap in the agency's Chemical Safety Program implementation framework as regional offices are uniquely situated to increase stakeholder involvement to ensure that its risk management actions are effective and efficient, and to leverage the efforts of states, tribes, localities and others to help reach the most vulnerable populations that chemical safety rules are intended to protect.

In FY 2017, the Pollution Prevention Program will increase efforts to promote the adoption of the Safer Choice label by product manufacturers and to increase the demand and use of Safer Choice labeled products by retailers, industrial and commercial purchasers, and the public. Additional resources will allow the Safer Choice program to expand its initiative into schools, expand into new product categories and classes, and conduct additional outreach to stakeholders, including manufacturers, retailers, and the public.

In FY 2017, the EPA's Endocrine Disruptor Screening Program (EDSP) will expand the use of alternative testing methodologies (i.e., high-throughput assays and computational tools) to prioritize and screen chemicals based on potential endocrine bioactivity and exposure related to the estrogen, androgen, or thyroid hormone pathways in humans and wildlife. The increased use of alternative testing methodologies will increase the output of screening results within existing resource levels.

The agency coordinates and advances protection of children's health through regulatory development, policy, program implementation, communication and effective results measurement as an explicit part of its mission. In FY 2017 the EPA will continue to coordinate its activities to

ensure that policies and programs explicitly consider and use the most up to date data and methods to protect children from public health risks.

Research: Chemical Safety for Sustainability (CSS)

In FY 2017, the CSS program has a net increase of \$5.6 million. These increased resources will 1) incorporate advancements in computational chemistry to allow use of information from chemical structures with known bioactivity to other structures with less data (i.e. read-across) in concert with growing international efforts, 2) use the high-throughput hazard and exposure information to begin to evaluate cumulative risk of chemical exposures, 3) expand and extrapolate to novel assays that have relevance to ecological impacts, and 4) demonstrate how the ToxCast/Tox21 data can be used to develop high-throughput risk assessments, in particular for data-poor chemicals.

Agency Priority Goals

The EPA has reached the end of the two-year implementation period for its FY 2014-2015 Agency Priority Goal:

Assess and reduce risks posed by chemicals and promote the use of safer chemicals in commerce. By September 30, 2015, the EPA will have completed more than 250 assessments of pesticides and other commercially available chemicals to evaluate risks they may pose to human health and the environment, including the potential for some of these chemicals to disrupt endocrine systems. These assessments are essential in determining whether products containing these chemicals can be used safely for commercial, agricultural and/or industrial uses.

The EPA exceeded its target of 250 assessments by completing 299 of the assessments in the areas of focus in the FY 2014-2015 time period. Some achievements toward the goal included:

- First application of ORD CompTox and Tox21 research—Chemical prioritization based on estrogen and androgen bioactivity using high throughput and CompTox methods.
- Introduced the use of high throughput screening and computational models as an alternative to three Tier 1 EDSP assays (published June 16, 2015)
- Accepted Estrogen Receptor Reactivity (ER) Model data for 1,800 chemicals
- Validated test methods, covering a range of mammalian and ecological species, to screen 52 chemicals.
- Met or exceeded pesticides program targets for docket openings, and for registration goals under the Pesticide Registration Improvement Extension Act (PRIA), which includes comprehensive risk assessments.
- Assessments completed for 5 TSCA Work Plan Chemicals to date—the first TSCA assessments completed in 28 years. (The assessment for N-Methylpyrrolidone (NMP) was released in March 2015).

The agency has released its FY 2016-2017 APGs. The Goal 4 FY 2016-2017 APG to help reduce the risk and increase the safety of chemicals is to:

Assess and reduce risks posed by chemicals and promote the use of safer chemicals in commerce. By September 2017, the EPA will complete more than 3,400 assessments of pesticides and other commercially available chemicals to evaluate risks they may pose to human health and the environment. These assessments are essential in determining whether products containing these chemicals can be used safely for commercial, agricultural, and/or industrial uses. For example, assessments can help determine the potential for chemicals to disrupt endocrine systems or to pose risks to honey bees and other pollinators by outdoor use of pesticides.

This APG includes targets for chemical assessments for new chemicals (2,000 assessments), existing chemicals (33 assessments), endocrine disruptors (1,000 screening assessments), and pesticides (104 draft risk assessments and 308 PRIA risk assessments).

Additional information on the EPA's Agency Priority Goals can be found at www.performance.gov.

FY 2017 Activities

Objective 1: Ensure Chemical Safety. *Reduce the risk and increase the safety of chemicals that enter our products, our environment and our bodies.*

In FY 2017, \$67.2 million is directed to the TSCA Chemical Risk Review and Reduction program to address the safety of new chemicals and existing chemicals, including “legacy” chemicals such as PCBs. The major activity of the New Chemicals Program is the review of approximately 1,000 premanufacture notices annually (including products of biotechnology and new chemical nanoscale materials) and to ensure that they do not pose unreasonable risks prior to their entry into the U.S. marketplace. In FY 2017, the EPA's toxics program will maintain its ‘zero tolerance’ goal for preventing the introduction of unsafe new chemicals into commerce.

Existing Chemicals Program activities fall into three major categories: 1) obtaining, managing, and making chemical information public; 2) screening and assessing chemical risks; and 3) taking action to reduce chemical risks. In FY 2017, progress will be made to: expand the amount and usability of TSCA information made available to the public through the ChemView database, a database containing information on chemical health and safety data received by the EPA and the EPA's assessment and regulatory actions for specific chemicals; address high priority existing chemicals already in commerce with a goal of completing assessments of 21 additional TSCA Work Plan Chemicals and similar/related chemicals; and acting expeditiously in using TSCA regulatory authorities to reduce risks identified in those assessments. In FY 2015, the EPA announced the release of a final risk assessment for a widely used paint stripper (N-Methylpyrrolidone (NMP)) and released for public comment Problem Formulations and Initial Assessments for three flame retardant clusters (i.e., groups of similar chemicals that can be used as substitutes by industry). Additionally, the EPA released a Data Needs Assessment for the Brominated Phthalates flame retardant cluster that identifies critical gaps in toxicity, exposure and commercial mixtures data for seven chemicals. The agency will continue to pursue these critical data necessary for risk assessment of this cluster of chemicals, a process that is likely to take several years under the procedures required under TSCA. In FY 2017, the EPA will continue to advance, as appropriate, risk reduction actions in response to completed risk assessments of TSCA

Work Plan chemicals and similar/related chemicals, including TSCA Section 6 production and use restriction rules, TSCA Section 5 Significant New Use Rules (SNURs) and other regulatory and non-regulatory approaches to risk reduction.

In FY 2017, the agency will continue to conduct risk reduction activities to further reduce risks from high-risk “legacy” chemicals. The EPA will continue to maintain the resources necessary to enable the agency to meet any continuing obligations under statutes associated with PCBs and other long-standing chemical risks.

The Lead Risk Reduction program and the Categorical Grant Lead program, with \$27.6 million in resources (EPM and STAG combined), will continue certifying and recertifying lead-based paint firms capable of implementing lead-safe practices in abatement and renovation, repair and painting (RRP) activities, and will conduct outreach to educate the public about the risks of elevated blood lead levels and encourage testing for children at risk. These efforts are intended to sustain the dramatic progress made to reduce the percentage of children with elevated blood-lead levels illustrated in the figure below.

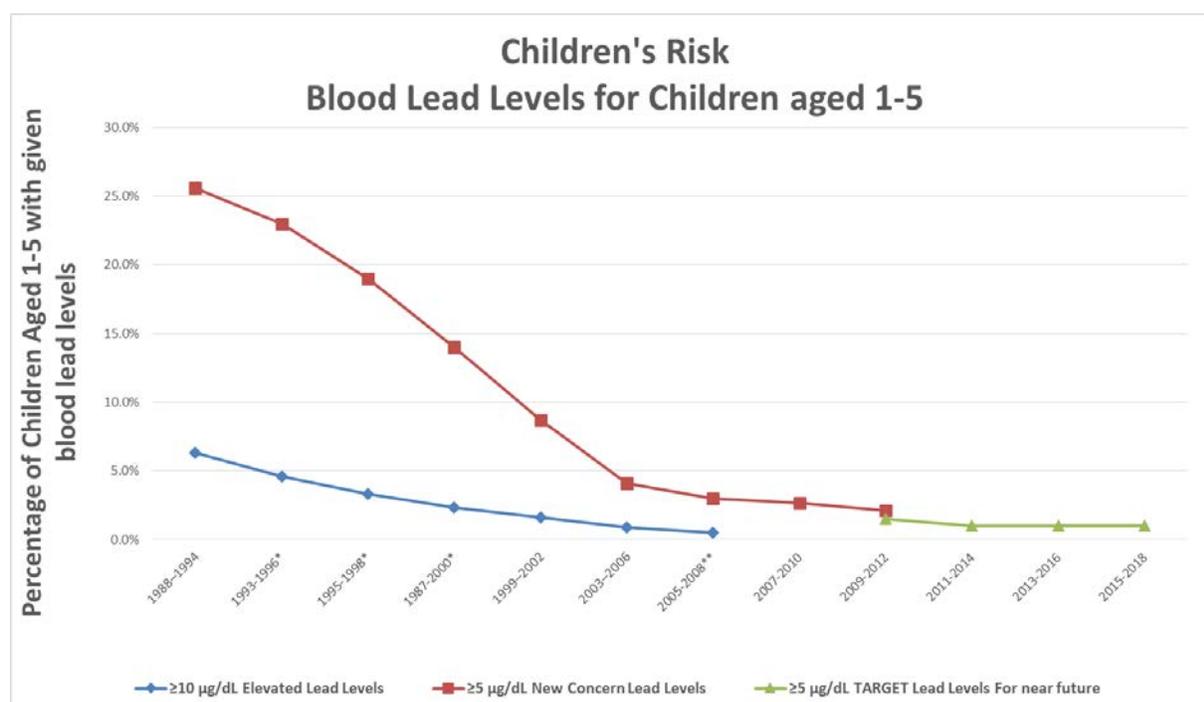


Figure 2: Percentage of Children Aged 1-5 with Given Blood Lead Levels (PM 008)* **Values are not CDC data; interpolated for graphical display only** ** $\geq 10 \mu\text{g/dL}$ estimate is considered unreliable (relative standard error greater than 40 percent).

In FY 2017, the agency also will continue to collaborate with international partners, through the Organization for Economic Cooperation and Development (OECD), to maximize the efficiency of the EPA's resource use and promote adoption of internationally harmonized test methods for identifying endocrine disrupting chemicals. The EPA represents the U.S. as either the lead or a participant in OECD projects involving the improvement of assay systems including the development of non-animal prioritization and screening methods.

Identifying, assessing, and reducing the risks presented by the pesticides on which our society and economy depend are integral to ensuring environmental and human safety. Chemical and biological pesticides help meet national and global demands for food. They provide effective pest control for homes, schools, gardens, highways, utility lines, hospitals, and drinking water treatment facilities, while also controlling vectors of disease. The program ensures that the pesticides available in the U.S. are safe when used as directed. The program is increasing its focus on pollinator health as well, working with other federal partners, states, and private stakeholder groups to stem pollinator declines and increase pollinator habitat. In addition, the program places priority on reduced risk pesticides that, once registered, will result in increased societal benefits.

In FY 2017, \$128.3 million is provided to support the EPA pesticide applications review and registration program. The EPA will invest substantial resources to improve the compliance of pesticide registrations with the Endangered Species Act in accordance with the National Academy of Sciences study/recommendations (<http://www.epa.gov/espp/2013/nas.html>). A portion of the funding will ensure that pesticides are correctly registered and applied in a manner that protects water quality. The EPA will continue registration and reregistration requirements for antimicrobial pesticides. Together, these programs will minimize exposure to pesticides, maintain a safe and affordable food supply, address public health issues, and minimize property damage that can occur from insects, pests and microbes. The agency's worker protection, certification, and training programs will encourage safe application practices. The EPA also will continue to emphasize the protection of potentially sensitive groups, such as children, by reducing exposures from pesticides used in and around homes, schools, and other public areas.

The EPA will continue to work to improve pollinator health by performing laboratory and technical analysis on pollinators such as honeybees and monarch butterflies as well as related resources such as hive structures. Improving our scientific understanding will allow the agency to more effectively protect pollinators in the future using a range of regulatory and non-regulatory tools. The EPA will continue to assess the effects of pesticides, including neonicotinoids, on bee and other pollinator health and take action as appropriate to protect pollinators, engage state and Tribal agencies in the development of pollinator protection plans, and expedite review of registration applications for new products targeting pests harmful to pollinators

Objective 2: Promote Pollution Prevention. *Conserve and protect natural resources by promoting pollution prevention and the adoption of other sustainability practices by companies, communities, governmental organizations, and individuals.*

In FY 2017, the EPA's Pollution Prevention (P2) program (EPM and STAG combined) is funded at \$18.7 million. Preventing pollution at the source is the most cost effective technique for reducing human and environmental exposure to contaminants and associated risks. The P2 program is one of the EPA's primary tools for advancing environmental stewardship and sustainability by federal, state and tribal governments, businesses, communities and individuals. The P2 program seeks to alleviate environmental problems by achieving significant reductions in the generation and use of hazardous materials; reductions in the generation of greenhouse gases; and reductions in the use of water. At the same time, the P2 Program helps businesses and others reduce costs as a result of implementing these preventative approaches. The P2 program's efforts advance the agency's priorities to pursue sustainability, take action on climate change, make a visible difference in communities, and ensure chemical safety.

The P2 program accomplishes its mission by fostering the development of solutions to environmental problems that are designed to eliminate or reduce pollution, waste and risks at the source, such as: cleaner production processes and technologies; safer, “greener” chemicals, materials and products; and improved practices. The program also promotes the increased use of those solutions through such activities as providing technical assistance and demonstrating the benefits of P2 solutions. For example, the P2 program works with a diverse set of stakeholders to develop voluntary consensus standards for greener products, such as computers, televisions and imaging equipment, and to increase the use of these products in the federal government through federal green purchasing requirements, leading to significant environmental benefits from the reduction of hazardous materials in these products, increased product lifespan and improved energy efficiency. These efforts also support the Cross-Agency Priority Goal on federal actions to address climate change and Executive Order (EO) 13693, *Planning for Federal Sustainability in the Next Decade*.

In FY 2017, the EPA will continue to implement the Safer Choice Program, a product labeling initiative that identifies products that meet rigorous human health and environmental criteria. The Safer Choice Program’s label was redesigned in FY 2015 based on an analysis showing that the improved label will more clearly communicate to purchasers the benefits of those products and chemicals. This analysis supports the agency strategy to advance the use of evidence in decision-making by providing consumers with improved information. The new label is currently used on more than 2,000 consumer and institutional products. The P2 Program also will continue to implement the Economy, Energy, and Environment (E3) Partnership and the Green Suppliers Network (GSN), which are collaborations including five other federal agencies, to identify environmental improvements and cost savings and to help manufacturers consider sustainable changes to their business practices.

In FY 2017, the EPA will continue to work with other federal agencies to streamline, modernize, and improve the NEPA process by encouraging early involvement in the project scoping process and promoting approaches for working collaboratively with federal, state, local and Tribal partners on project proposals. The agency will continue to participate in the effort to implement the May 2014 Interagency “Implementation Plan for the Presidential Memorandum on Modernizing Infrastructure Permitting” to meet the goal of reducing permitting and review timelines, while improving environmental and community outcomes. This will include participating in coordinated reviews, developing innovative mitigation approaches (including accounting for and addressing climate change impacts), and promoting the use of IT tools. As a component of this effort, the program will continue to use and promote *NEPAassist*, a geographic information system (GIS) tool developed to assist users (the EPA, other federal agencies, and the public) with environmental reviews.⁵¹ In FY 2017, the proposed budget for NEPA is \$17.8 million.

In addition, the EPA will work with agencies as they implement the requirements of FAST-41, which sets out new requirements to streamline infrastructure permitting project reviews. The program will devote resources to participating in additional early permit/NEPA reviews, developing innovative mitigation approaches, and promoting the use of IT tools. The program has

⁵¹ For additional information, refer to: <https://www.transportation.gov/fastact>.

been successful at working with other federal agencies to ensure that project proposals are designed in a manner that protects environmental and community resources.

E3 Initiative and GSN are expected to grow to include more than 35 state partners.

International Priorities

To achieve our domestic environmental and human health goals, international partnerships are essential, including those with the business community, entrepreneurs and other members of society. Pollution is often carried by wind and water across national boundaries, posing risks to human health and ecosystems many hundreds and thousands of miles away.

Through these partnerships, the EPA will maintain focus on several priorities. In FY 2017, the EPA will work with other nations to build strong environmental institutions and legal structures with the goal of combating climate change by limiting pollutants and improving air quality in the U.S. and around the world. The EPA will work to expand access to clean water, and protect vulnerable communities from toxic pollution that impacts North America and nations worldwide. Through joint efforts with partners from around the world, the EPA is working to facilitate commerce, promote chemical safety, further sustainable development, protect vulnerable populations and engage in environmental issues, such as reducing risks from exposure to mercury and lead-based paint. The agency's international priorities will guide collaboration with the Commission on Environmental Cooperation (CEC) and all international partners.

In FY 2017, the EPA will enhance sustainability principles through expanded partnership efforts in multilateral forums and in key bilateral relationships. In addition, we will strengthen existing and build new international partnerships to encourage increased international commitment to sustainability goals and to promote a new era of global environmental stewardship based on common interests, shared values, and mutual respect. And finally, the EPA will continue to focus on technical and policy support for global and regional efforts such as strengthening the EPA leadership in the Arctic Council and with other governments to improve policies and implement cooperative projects that address climate change and reduce contamination of the arctic.

Research

The EPA research programs of Chemical Safety for Sustainability (CSS), Human Health Risk Assessment (HHRA), and Homeland Security underpin the analysis of risks and potential health impacts across the broad spectrum of EPA programs and provide the scientific foundation for chemical safety and pollution prevention. In FY 2017, the EPA will further strengthen its planning and delivery of science by continuing an integrated research approach that tackles problems systematically.

FY 2017 presents an opportunity to further enhance and broaden the application of the CSS computational toxicology research to agency activities across diverse regulatory frameworks. Novel applications can add significant efficiency and effectiveness to agency operations. For example, it will increase the pace of screening for endocrine disruptors from a maximum of several dozen per year to about 1,000 per year. These applications complement efforts of the agency's

Chemical Safety and Pollution Prevention program to apply high throughput and other 21st Century exposure information to Toxic Substances Control Act (TSCA) chemical prioritization.

In FY 2017, the EPA will continue to tailor, apply and demonstrate newer computational toxicology approaches to increase the pace and efficiency of the Endocrine Disruptor Screening Program (EDSP). Thus far, the EPA has used its computational tools primarily to inform the agency's chemical screening and prioritization needs, in particular in the EDSP. In June 2015, the EPA announced its plans, developed in collaboration with the National Institute of Environmental Health Sciences (NIEHS), to use high throughput screening assays and models to accelerate the implementation of the EDSP.⁵² This groundbreaking collaboration among the research and policy segments of EPA presented a key opportunity to demonstrate how emerging data and models can be applied in the specific context of the policy decision (i.e., fit for purpose), accelerating the pace of decision making. These new technology applications will allow us to screen more chemicals in less time, use fewer animals, and reduce costs for taxpayers.

In FY 2017, the EPA will use these technologies to look beyond human health and expand and extrapolate to novel assays that have relevance to impacts affecting ecological health. The agency also will work to customize and adapt emerging technologies for specific application to EPA chemical testing and evaluation systems. Several federal agencies including the NIH,⁵³ FDA, the EPA, and the Defense Advanced Research Projects Agency (DARPA) are currently funding programs that develop models of organs (heart, liver, etc.). The EPA can leverage these investments to evaluate the contributions of environment factors to diseases.

Additionally, the CSS program will continue to apply computational and knowledge-driven approaches to amplify the impact of its research on engineered nanomaterials and on evaluation of emerging safer chemical alternatives. Results of this research will provide guidelines for evaluating potential impacts of emerging materials from the molecular design phase throughout their lifecycle in their applications to goods and products in commerce. These research directions are in keeping with the environmental health and safety research needs identified by the National Nanotechnology Initiative.⁵⁴ Through specific case studies, CSS will further evaluate the impact of nanomaterial exposures through ubiquitous use in consumer products and lifecycle impacts, including discharge to wastewater or impact to biosolids.

Finally, the CSS research program is the lead national research program for the agency's Children's Environmental Health (CEH) Roadmap. Transforming EPA's capacity for considering child-specific vulnerabilities requires that the program apply advanced systems science and integrate diverse emerging data and knowledge in exposure, toxicology, and epidemiology to improve understanding of the role of exposure to environmental factors during early life on health impacts that may occur at any point over the life course.

In FY 2017, the agency's Human Health Risk Assessment Research Program will continue to develop assessments and scientific products that are used extensively by EPA program and

⁵² <http://www.epa.gov/endo/#announcement>.

⁵³ NIH, "Tissue Chip for Drug Screening", <http://www.ncats.nih.gov/tissuechip>.

⁵⁴ "Environmental, Health, and Safety Issues", <http://www.nano.gov/you/environmental-health-safety>.

regional offices and the risk management community to estimate the potential risk to human health from exposure to environmental contaminants. These include:

- Integrated Risk Information System health hazard and dose-response assessments;
- Integrated Science Assessments of criteria air pollutants;
- Community Risk; and
- Advancing Analyses and Applications.

The Homeland Security Research Program (HSRP) will continue to enhance the nation's preparedness, response, and recovery capabilities for homeland security incidents and other hazards by providing stakeholders and partners with valuable detection and response analytics for incidents involving chemical, biological, or radiological agents. The program will continue to emphasize the research needed to support response and recovery from wide-area attacks involving radiological agents, nuclear agents, and bioterror agents such as anthrax.

In FY 2017, \$158.4 million is directed to the Chemical Safety and Sustainability, Human Health Risk Assessment, and Homeland Security Research programs.

**Environmental Protection Agency
FY 2017 Annual Performance Plan and Congressional Justification**

Goal 5: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

Protect human health and the environment through vigorous and targeted civil and criminal enforcement. Use Next Generation Compliance strategies and tools to improve compliance with environmental laws.

STRATEGIC OBJECTIVES:

- Pursue vigorous civil and criminal enforcement that targets the most serious water, air, and chemical hazards in communities to achieve compliance. Assure strong, consistent, and effective enforcement of federal environmental laws nationwide. Use Next Generation Compliance strategies and tools to improve compliance and reduce pollution.

GOAL, OBJECTIVE SUMMARY

Budget Authority
Full-time Equivalents
(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance	\$746,541.7	\$742,461.8	\$800,184.9	\$57,723.1
Enforce Environmental Laws to Achieve Compliance	\$746,541.7	\$742,461.8	\$800,184.9	\$57,723.1
Total Authorized Workyears	3,251.5	3,397.8	3,402.8	5.0

Goal 5: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

Strategic Goal: *Protect human health and the environment through vigorous and targeted civil and criminal enforcement. Use Next Generation Compliance strategies and tools to improve compliance with environmental laws.*

Introduction

The EPA's civil and criminal enforcement programs assure compliance with our nation's environmental laws. A strong and effective enforcement program is essential to realizing the benefits of our laws and regulations, maintaining a level economic playing field, and attaining the public health and environmental protections our federal statutes were created to achieve. As a key part of our enforcement program, the EPA is committed to supporting public health in communities disproportionately burdened by pollution by integrating and addressing issues of environmental justice (EJ) in the EPA's programs and policies as part of its day-to-day business. The EPA's EJ program promotes accountability for compliance with Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations."

On January 18, 2011, President Obama issued a Presidential Memorandum titled "Regulatory Compliance"⁵⁵ which reaffirms the importance of effective enforcement and compliance with regulations. It states "[s]ound regulatory enforcement promotes the welfare of Americans in many ways, by increasing public safety, improving working conditions, and protecting the air we breathe and the water we drink. Consistent regulatory enforcement also levels the playing field among regulated entities, ensuring that those that fail to comply with the law do not have an unfair advantage over their law-abiding competitors."

In FY 2017, the EPA seeks to maintain the strength of its core national enforcement and compliance assurance program. Recognizing the challenging fiscal climate at both the federal and state level, the agency will implement strategies that use resources more efficiently and continue to find opportunities to focus and leverage efforts to assure compliance with environmental laws. Our objective is to pursue vigorous civil and criminal enforcement that targets the most serious water, air, and chemical hazards in communities; assure strong, consistent, and effective enforcement of federal environmental laws nationwide; and to use modern, streamlined techniques, strategies and tools to improve targeting and transparency and increase compliance. The EPA will continue to focus resources on environmental problems where noncompliance is having a significant impact. This strategy means the EPA's top enforcement priority will be pursuing higher impact cases, including large, complex cases that require significant investment and a long-term commitment.

The EPA has achieved impressive pollution control and health benefits through vigorous compliance monitoring and enforcement activities. However, enforcement alone will not address all non-compliance problems. The sheer number of regulated facilities, the contributions of large numbers of smaller sources to environmental problems, and limited resources mean the EPA and states cannot rely solely on the traditional single facility inspection and enforcement approach to

⁵⁵ Please see: <http://www.whitehouse.gov/the-press-office/2011/01/18/presidential-memoranda-regulatory-compliance>

ensure widespread compliance.⁵⁶ In FY 2017, the agency will continue to implement new and innovative methods to reduce pollution and increase compliance nationwide over the long term.

Towards this end, in FY 2017, the agency will continue to focus efforts on moving forward with the Next Generation Compliance approaches to harness state-of-the-art technology and best practices to make our efforts more efficient and effective. This approach, formalized in the agency's 2014-2018 Strategic Plan, aims to increase compliance with environmental regulations by capitalizing on advances in information technology and advanced pollutant detection technology. It also aligns with the E-Enterprise business strategy, described below, with a focus on process efficiencies in collaboration with states and tribes as systems are modernized. There are five main components to Next Generation Compliance: 1) structuring our regulations and permits to be easier to implement and contain self-implementing mechanisms to achieve higher compliance; 2) using advanced pollutant detection technology to detect pollution as it happens in real-time; 3) moving from paper to electronic reporting to enhance government efficiency and reduce paperwork burden; 4) making pollution and compliance information more accessible, user-friendly, and available to the public to support community awareness and promote facility accountability; and 5) using innovative approaches to enforcement to focus limited resources on the biggest pollution problems. See <http://www.epa.gov/compliance/next-generation-compliance>.

The use of new detection technologies, combined with a focus on designing rules and permits that are easier to implement, will improve compliance, expand transparency, and protect communities while reducing costs for states, territories, tribes, and regulated facilities. In particular, the burden of monitoring and compliance reporting will be reduced for states, the EPA and others by investing in state-of-the-art monitoring technology and supporting electronic reporting and interaction with the regulated community. This will allow the EPA and states to more effectively deploy inspection resources. For example, in September 2015, the EPA signed the final rule to convert the National Pollutant Discharge Elimination System (NPDES) paper-based reporting system to a more effective and efficient national electronic system, with implementation beginning in calendar year 2016. The rule will benefit the public, regulated facilities, states, and the EPA by providing high quality, complete, and timely data for the NPDES program. The EPA's cost-benefit analysis for the proposed rule estimates that the overall reporting burden will be reduced by 900,000⁵⁷ hours when the rule is fully implemented.

Efforts already underway have shown that the Next Generation compliance approaches will have meaningful benefits. For example, the EPA's Region 6 implemented the first federal general permit in the nation that required electronic submission of data through the EPA's electronic reporting tools. Implemented for the Offshore Oil & Gas NPDES General Permit program, this effort uses electronic reporting to reduce reporting burden on permitted entities and the EPA, while allowing for automated tracking of permit limits and reporting requirements, enhancing data quality, and increasing transparency for regulators and the public. The agency estimates that without deployment of the electronic reporting tools, data entry alone would have cost the agency approximately \$2.6 million over a five-year permit cycle. In combination with the experience from other programs that use electronic reporting such as Ohio's NPDES program and the EPA's TRI

⁵⁶ For additional information, refer to: <http://www.epa.gov/sites/production/files/documents/actionplan101409.pdf>.

⁵⁷ For more information, see "Economic Analysis of the National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Final Rule" [DCN 0197] at <http://www.epa.gov/sites/production/files/2015-09/documents/npdesea.pdf>.

program, this provides another example of how the benefits are likely to grow as electronic reporting becomes the norm.

The Next Generation Compliance approach complements E-Enterprise for the Environment, a 21st century strategy – jointly governed by states and the EPA – to modernize government agencies’ delivery of environmental protection in the United States. The E-Enterprise business strategy is an integral part of an agency-wide effort to launch a new era of state, local, Tribal, and international partnerships. Under this strategy, the agency will streamline its business processes and systems to reduce reporting burden on states and regulated facilities, and improve the effectiveness and efficiency of regulatory programs for the EPA, states and tribes.

In FY 2017, the Enforcement and Compliance Assurance program will continue to align with the E-Enterprise business strategy as an integral part of the agency’s focus on increasing the efficiency of the inspection process and modernizing enforcement and compliance data systems. On-going projects, include: 1) partnering with states to develop and implement fillable e-forms for electronically reporting NPDES information; 2) supporting NPDES e-reporting rule implementation and program evaluation; 3) purchasing advanced monitoring equipment; and 4) supporting transparency through the modernized Enforcement and Compliance History Online (ECHO) database and transition of the Air Facility System (AFS) to the Integrated Compliance Information System (ICIS)-Air. Another focus in FY 2017 will be developing a field collection, evidence management, and reporting system for conducting compliance monitoring inspections, which will be guided by initial development in tandem with the states, for the Resource Conservation and Recovery Act (RCRA) program.

Data transparency is a key foundation of the ECHO web reporting tool and the EPA believes making compliance information publicly available allows the American people to be better informed about environmental activities and compliance in their communities and provides an incentive to achieve greater compliance with environmental laws. ECHO is the EPA’s premier web-based tool that provides public access to compliance and enforcement information for approximately 800,000 EPA-regulated facilities. The EPA, state and local environmental agencies collect/report data from facilities and from their own activities and submit that data to the EPA’s databases. ECHO usage has grown to more than three million queries per year.

Major FY 2017 Changes

The FY 2017 request maintains FTE near the lowest levels in the program’s history, but includes resources for the EPA to identify and address noncompliance by dedicating resources to data analysis and systems, lab support, equipment for front line enforcement personnel, inspector training, and case support (such as expert witnesses and document management services). These resources will allow our staff to be more efficient and effective at protecting public health and maintaining a level playing field for companies that play by the rules, by assuring compliance with environmental laws.

In FY 2017⁵⁸, key themes in the enforcement and compliance budget reflect on-going changes in programmatic direction and efficiencies gained from modernizing our business processes. The EPA continues to improve its business processes under both the E-Enterprise business strategy and Next Generation Compliance based on advances in pollutant monitoring and information technology. Resources across Goal 5 will continue to be focused on advancing efforts in the agency's priorities: Addressing Climate Change and Improving Air Quality, Protecting America's Waters, Cleaning up Our Communities and Advancing Sustainable Development. Our enforcement work also continues to be guided by a focused group of priority efforts known as National Enforcement Initiatives (NEIs). NEIs address serious patterns of noncompliance in areas that are particularly complex and challenging. New NEIs for FY 2017-2019 will be selected through a collaborative process that EPA started in FY 2015 and will be completed in FY 2016.

Addressing Climate Change and Improving Air Quality

In FY 2017, the EPA will help improve air quality in communities by targeting large pollution sources such as the coal-fired utility, acid, cement, glass and natural gas exploration and production industries that are not complying with environmental laws and regulations. Where the EPA finds non-compliance, the agency will take action to bring them into compliance, which may include requiring facilities to install controls that will benefit communities and/or improve emission monitoring. Enforcement activities which cut toxic air pollution in communities will improve the health of residents, particularly those overburdened by pollution. In FY 2015, the EPA reduced, treated, or eliminated 430 million pounds of air pollutants as a result of concluded enforcement actions. In FY 2017, the agency's budget provides resources to improve the quality and efficiency of compliance inspections, to develop an advanced monitoring equipment program, and to support air regulation implementation. The inspection effort includes the development of tools to allow inspectors to record field observations and transmit inspection reports electronically. Leveraging technology to move to a digitally based process will assist in identification of patterns of problems, compile inspection results in a more timely way, increase transparency on compliance status, and allow for quicker responses where appropriate. The focus of the advanced monitoring program will be on providing communities with monitors, along with technical assistance and training, to allow them to better understand the state of their environment and help local decision makers consider actions that will reduce the risks from pollution. This work will support both the air and water programs.

Protecting America's Waters

In FY 2017, the EPA will continue to work with states to use compliance and enforcement approaches which more effectively and efficiently address the most important water pollution problems. Our focus will include getting raw sewage out of water, cutting pollution related to animal waste, and reducing pollution from stormwater runoff. The EPA also will continue to promote an integrated planning strategy for addressing municipal sewage and stormwater challenges, including the use of lower cost and innovative approaches such as incorporating green infrastructure into enforcement remedies where appropriate. In addition, through its enforcement agreements, the EPA works closely with communities to get the most important work for

⁵⁸ The EPA is providing a total of \$591 million for the National Enforcement and Compliance Assurance program. There are additional resources for the program under Goals 2, 3 and 4.

protecting health accomplished in the most cost effective way, and on a schedule that is practical and affordable. These efforts will help clean up aquatic ecosystems like the Chesapeake Bay and will focus on revitalizing urban communities by protecting and restoring urban waters. These options are proving attractive to communities in achieving Combined Sewer Overflow (CSO) program objectives.⁵⁹ Enforcement efforts also will support the goal of assuring clean drinking water for all communities, including for small systems and in Indian country, and improving the quality of Safe Drinking Water Act data reported by states to ensure compliance. In FY 2015, the EPA reduced, treated, or eliminated 90 million pounds of water pollutants as a result of concluded enforcement actions. In FY 2017, the agency's budget directs resources to improve the quality and efficiency of compliance inspections, develop an advanced monitoring equipment program, and test and pilot advanced monitoring technologies, which will support both air and water programs.

Cleaning up Our Communities and Advancing Sustainable Development

In FY 2017, the EPA will continue to protect communities by ensuring that responsible parties conduct Superfund and other cleanups, saving federal dollars for sites where there are no viable contributing parties. Ensuring that responsible parties clean up the sites also reduces direct human exposure to hazardous pollutants and contaminants, provides for long-term human health protection, and ultimately makes contaminated properties available for reuse. The EPA will continue to integrate environmental justice (EJ) considerations into the site remediation enforcement programs by using EJ criteria when enforcing RCRA corrective action requirements to meet RCRA 2020 goals and ensuring that institutional controls are implemented at sites with potential environmental justice concerns.

The FY 2017 budget request also provides resources to make comprehensive community-based information available on the EPA's Geo-platform, ensuring that the EPA community investments are mapped and easily accessible to the EPA's staff. The EPA's Geo-platform will lead to better targeting of areas of most environmental concern such as EJ communities.

Agency Priority Goals

The EPA developed FY 2014-2015 Agency Priority Goals (APGs) that advance the agency's priorities and the agency's Strategic Plan. The EPA met the FY 2014-2015 APG for E-Enterprise. In FY 2017, the EPA will build on progress under its updated APG for FY 2016-2017:

E-Enterprise will strengthen environmental protection through business process improvements enabled by joint governance and technology. By September 30, 2017, reduce burden by one million hours, add five new functionalities to the E-Enterprise Portal, and begin development on two projects selected through E-Enterprise Leadership Council joint governance.

To support this APG, the EPA seeks to transform the way business is conducted through the E-Enterprise strategy. A State-EPA E-Enterprise leadership council has been convened and is actively working to prioritize and consolidate projects to maximize the benefits. The priority goal is housed in Goal 5, but E-Enterprise work will occur across the range of agency programs that interact with states, tribes, and industry.

⁵⁹ For additional information, refer to: <http://www.epa.gov/npdes/integrated-planning-municipal-stormwater-and-wastewater>

Next Generation Compliance activities contribute to the burden reduction goal. For example, the NPDES e-reporting rule is estimated to reduce burden by approximately 900,000 hours.⁶⁰ Additional information on the EPA's Agency Priority Goals can be found at: www.performance.gov.

FY 2017 Activities

***Objective 1: Enforce Environmental Laws.** Pursue vigorous civil and criminal enforcement that targets the most serious water, air, and chemical hazards in communities to achieve compliance. Assure strong, consistent, and effective enforcement of federal environmental laws nationwide. Use Next Generation Compliance strategies and tools to increase compliance with environmental laws.*

The EPA continually assesses priorities and embraces new approaches that can help achieve the agency's goals more efficiently and effectively. The EPA's FY 2017 budget submission for the Enforcement and Compliance Assurance program continues to invest resources in high priority areas with the greatest impact on public health, while reducing resources where we have made significant progress (and therefore no longer require as active an enforcement presence), or that, while important, do not address the most substantial impacts to human health. The EPA carefully evaluates program activities and directs limited resources to where they can best protect public health, especially addressing disadvantaged communities; supporting core work of state and Tribal partners; and focusing on the largest pollution problems. The EPA will continue to examine new enforcement approaches through Next Generation Compliance to make the program more efficient and effective.

The agency remains committed to implementing a strong enforcement and compliance program focused on identifying and reducing non-compliance and deterring future violations. To meet this commitment, the program employs a variety of activities, including data collection and analysis, compliance monitoring, compliance assistance, civil and criminal enforcement efforts, and innovative and evidence-based problem-solving approaches. In FY 2017, these efforts will be enhanced through Next Generation Compliance approaches that rely on modern reporting and monitoring tools to advance implementation of the agency's priorities and core program work.

Further, in designing and implementing Compliance Monitoring program activities, the EPA tracks and assesses recent studies and evaluations regarding the effectiveness and limits of compliance monitoring and enforcement in promoting compliance and deterrence. The evidence in the literature consistently demonstrates that strong and active compliance monitoring and enforcement increases compliance and reduces pollution.⁶¹ The EPA's Compliance Research Literature web page references many of these studies and reports.⁶²

⁶⁰ For more information, see "Economic Analysis of the National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Final" [DCN 0197] at <http://www.epa.gov/sites/production/files/2015-09/documents/npdesea.pdf>.

⁶¹ For example: R. Hanna & P. Oliva; *The Impact of Inspections on Plant-Level Air Emissions under the Clean Air Act*; 10 B.E. Journal of Economic Analysis and Policy 1 (2010). And J. Shimshack & M. Ward, *Enforcement and Over-Compliance*, J. Environ. Econ. 55(1): 90-105 (2008)

⁶² For more information, refer to: <http://www.epa.gov/compliance>.

Compliance Monitoring - Targeting the Most Serious Hazards in Communities

The EPA's compliance monitoring program reviews and evaluates the activities of the regulated community to determine compliance with applicable laws, regulations, permit conditions and settlement agreements. The program also determines whether conditions exist at facilities that present imminent and substantial endangerment.

In FY 2017, the EPA's compliance monitoring activities will be both environmental media-based and sector-based. The EPA's media-based inspections complement those performed by states and tribes, and are a key part of the strategy for meeting the long-term and annual goals established for the air, water, pesticides, toxic substances and hazardous waste programs. The EPA will target its inspections to the highest priority areas and coordinate inspection activity with states and tribes to better leverage resources and enhance collaboration. In FY 2015, the EPA conducted approximately 15,400 federal inspections and evaluations.

In FY 2017, as part of Next Generation Compliance, the agency will continue to enhance the efficiency and effectiveness of the compliance monitoring program by leveraging electronic reporting to reduce paperwork burden, increasing transparency by enhancing systems to report, synthesize, utilize, and disseminate monitoring data, designing analytic tools to help understand and utilize data, and deploying state-of-the-art monitoring equipment to the field. Updating data systems to utilize electronic transmissions from regulated facilities will benefit the compliance monitoring program by allowing the EPA to better apply evidence-based approaches to the program and determine what strategies achieve the best results.

Compliance monitoring includes the EPA's management and use of data systems to oversee its compliance and enforcement programs under the various statutes and programs that the agency enforces. In FY 2017, the EPA will continue the process of enhancing its data systems to integrate with the E-Enterprise business strategy and to support electronic interaction with regulated facilities, providing more comprehensive, accessible data to the public and improving integration of environmental information with health data and other pertinent data sources from other federal agencies and private entities. Building upon ongoing work in FY 2016, the completion of ICIS development in FY 2017 will provide additional functionality to support the agency's Next Generation and E-Enterprise business strategy principles (e.g., electronic reporting). The EPA is also coordinating with the states through E-Enterprise for the expected implementation of Smart Tools for RCRA field inspectors in FY 2016 and the development of these tools for the Clean Water Act and Clean Air Act programs in FY 2017.

In addition, the EPA plans to continue work toward improving transparency and analysis through enhancements of the modernized Enforcement and Compliance History Online (ECHO) in alignment with the E-Enterprise business strategy. Specifically, in FY 2017, the EPA will continue to enhance its analytical capabilities for analyzing large data sets and displaying the results in a geospatial platform (e.g., the EPA's Geo-platform). These efforts will lead to better targeting of areas of most environmental concern and will produce evidence that demonstrates the need for continued investment in enhanced data analytics. Currently, ECHO includes State Performance dashboards for the Clean Water Act (CWA), Clean Air Act (CAA) and Resource Conservation and Recovery Act (RCRA) to allow users to assess each state's performance in enforcing the

various environmental statutes, as well as integrate facility information across media specific data systems. Through ECHO and its reports, users can now view this data in a comprehensive and organized manner, including a search function. ECHO reports provide a snapshot of a facility's environmental record, showing dates and types of violations, as well as the state or federal government's response. The system allows the public to monitor environmental compliance in their communities, corporations to monitor compliance across facilities they own, and investors to more easily factor environmental performance into their decisions. These features will be enhanced to continue to expand public access to more transparent EPA multimedia enforcement and compliance data.

In FY 2017, the proposed budget for compliance monitoring is slightly more than \$112.5 million.

Assuring Strong, Consistent, and Effective Enforcement

Civil Enforcement

The Civil Enforcement program's overarching goal is to assure compliance with the nation's environmental laws and regulations in order to protect human health and the environment. The program collaborates with the Department of Justice, states, local agencies and Tribal governments to ensure consistent and fair enforcement of all environmental laws and regulations. The program seeks to protect public health and the environment and ensure a level playing field by strengthening partnerships with co-implementers in the states, encouraging regulated entities to rapidly correct their own violations, ensuring that violators do not realize an economic benefit from noncompliance and pursuing enforcement to deter future violations.

The Civil Enforcement program develops, litigates and settles administrative and civil judicial cases against serious violators of environmental laws. The EPA also pursues enforcement against federal agency violators to ensure compliance with environmental laws and protection of human health and the environment. In FY 2015, the EPA's enforcement actions required regulated entities to invest more than \$7 billion in actions and equipment to control pollution (injunctive relief). Also in FY 2015, the enforcement program obtained a total of \$205 million in federal administrative and civil judicial penalties. The EPA's enforcement actions required regulated entities to reduce pollution by an estimated 530 million pounds and treat, minimize, or properly dispose of 500 million pounds of hazardous waste. Sustained and focused enforcement attention to the Safe Drinking Water Act (SDWA) resulted in a 75 percent reduction in the number of public water systems with serious unresolved violations in the past five years; this was the result of combination of federal and state enforcement actions and improved prioritization and tracking processes.

In FY 2017, the EPA's civil enforcement program will focus on the national enforcement initiatives, including in communities that may be disproportionately exposed to risks and harm from pollutants in their environment. The National Enforcement Initiatives for FY 2017-FY 2019 will be selected through a collaborative process that will be completed in FY 2016. These national initiatives address problems that remain complex and challenging. For example, the FY 2014-FY 2016 initiatives are focused on keeping raw sewage and contaminated stormwater out of our nation's waters, preventing animal waste from contaminating surface and ground waters, and addressing violations of the Clean Air Act New Source Review/Prevention of Significant

Deterioration requirements and Air Toxics regulations, RCRA violations at mineral processing facilities, and multi-media problems resulting from energy extraction activities. Information on initiatives, regulatory requirements, enforcement alerts and the EPA's results are available to the public and the regulated community through websites.⁶³

As with the compliance monitoring program, the EPA's enforcement program will benefit from receiving electronic reporting of data from regulated facilities and by having more complete and timely data to better evaluate which enforcement approaches are most effective. This utilizes the transformative information system-based work of the larger E-Enterprise business strategy. The EPA and states will be able to better prioritize enforcement resources based on evidence that indicates where they are most needed such as complex industrial operations requiring physical inspection, repeat violators, cases involving significant harm to human health or the environment, or potential criminal violations.

Next Generation Compliance also has been incorporated into the EPA's national effort to advance environmental justice by protecting communities that have been disproportionately impacted by pollution. For example, most of the infrared gas-imaging cameras (associated with the Marathon settlement) were placed in fuel storage tanks primarily located in environmental justice communities. Next Generation also promotes advanced emissions and pollutant detection technology so that regulated entities, the government, and the public can more easily see pollutant discharges, environmental conditions, and noncompliance. For example, in U.S. v. Marathon Petroleum Corporation, Marathon agreed (in May 2015) to implement innovative technologies using an infrared gas-imaging camera to inspect 14 fuel storage tanks in three states to identify potential defects that may cause excessive emissions of VOCs. If defects are found, Marathon will conduct inspections and perform repairs where necessary.⁶⁴

The Civil Enforcement program also provides support for other priority programs, including the Environmental Justice program. For example, in FY 2015, 35 percent of the enforcement cases initiated by the EPA addressed violations that had occurred in locations with potential environmental justice concerns and many other cases reduced pollution to the benefit of those communities. In addition, the civil enforcement program is helping to implement a compliance and enforcement strategy for the Chesapeake Bay, providing strong oversight to ensure existing regulations are complied with consistently and in a timely manner, and making data on government and facility performance in the Bay watershed accessible and understandable to the public.

In FY 2017, the proposed budget for civil enforcement is \$185.7 million.

Criminal Enforcement

Criminal enforcement exemplifies the EPA's commitment to pursue the most serious pollution violations. The EPA's criminal enforcement program investigates and helps prosecute environmental violations that involve intentional, deliberate, or criminal behavior on the part of the violator. The Criminal Enforcement program deters violations of environmental laws and regulations by demonstrating that the regulated community will be held accountable through jail

⁶³ For more information, refer to <http://www.epa.gov/enforcement/>.

⁶⁴ For more information, refer to <http://www.epa.gov/enforcement/marathon-petroleum-corporation-clean-air-settlement>.

sentences and criminal fines. Bringing criminal cases to court sends a strong deterrence message to potential violators, enhances aggregate compliance with laws and regulations, and protects communities at risk. In FY 2015, the conviction rate for criminal defendants was 92 percent.

To efficiently maximize resources, in FY 2017 the program will use its special agent capacity to identify and investigate cases with the most significant environmental, human health and deterrence impact and reduce case work in lower priority areas. The EPA's criminal enforcement program will target cases across all media that involve serious harm or injury; hazardous or toxic releases; ongoing, repetitive, or multiple releases; serious documented exposure to pollutants; and violators with significant repeat or chronic noncompliance or prior criminal conviction.

In FY 2017, the proposed budget for Criminal Enforcement is \$60.4 million.

Forensics Support

The Forensics Support program provides specialized scientific and technical support for the nation's most complex civil and criminal enforcement cases, as well as technical expertise for agency compliance efforts. The work of the EPA's National Enforcement Investigations Center (NEIC) is critical to determining non-compliance and building viable enforcement cases. The NEIC maintains a sophisticated chemistry laboratory and a corps of highly trained inspectors and scientists with a wide range of environmental scientific expertise. In FY 2017, NEIC will continue to function under rigorous International Standards Organization 17025 requirements for environmental data measurements to maintain its accreditation.

In FY 2017, the proposed budget for Forensics Support is \$15.8 million.

Superfund Enforcement

The EPA's Superfund Enforcement program protects communities by ensuring that responsible parties conduct or pay for cleanups of hazardous waste sites, preserving federal dollars for sites where there are no viable contributing parties. Superfund enforcement uses an "enforcement first" approach that maximizes the participation of liable and viable parties in performing and paying for cleanups in both the remedial and removal programs. The EPA will focus Superfund enforcement resources to support Potentially Responsible Party (PRP) searches, cleanup settlements, and cost recovery. Similarly, the Superfund Federal Facilities enforcement program will take action to ensure that federal agencies actively and appropriately manage their own cleanup efforts with the legally-required EPA oversight. The agency will continually assess its priorities and embrace new approaches that can help achieve its goals more efficiently and effectively.

Enforcement authorities play a unique role under the Superfund program. The authorities are used to ensure that responsible parties conduct a majority of the cleanup actions and reimburse the federal government for cleanups financed by federal resources. In tandem with this approach, various reforms have been implemented to increase fairness, reduce transaction costs, promote economic development and make sites available for appropriate reuse. Ensuring that responsible parties cleanup sites ultimately reduces direct human exposures to hazardous pollutants and

contaminants, provides for long-term human health protections and makes properties available for reuse.

The Department of Justice supports the EPA's Superfund enforcement program through negotiations and judicial actions to compel PRP cleanup and litigation to recover Trust Fund monies. The agency proposes to provide \$21.8 million to the Department of Justice through an Interagency Agreement. This partnership to ensure polluters pay has been very effective. In FY 2015, the EPA reached a settlement or took an enforcement action at 100 percent of non-federal Superfund sites with viable, liable parties. In addition, in FY 2015, private party cleanup commitments were approximately \$2 billion, the second highest amount committed to spend on site "cleanup" during a fiscal year, and the EPA billed private parties for \$106 million in oversight costs, the highest amount ever billed during a fiscal year. Responsible parties agreed to reimburse approximately \$512 million of the EPA's past costs for cleanup work at Superfund sites, the second highest total since the inception of the program.

In FY 2017 the proposed budget for the Superfund and Federal Facilities enforcement programs is \$166.1 million.

Partnering with States and Tribes

In FY 2017, the Enforcement and Compliance Assurance program will sustain its environmental enforcement partnerships with states and tribes and work to strengthen their ability to address environmental and public health threats. In FY 2017, the Enforcement and Compliance Assurance program will provide \$23.0 million in grants to the states and tribes to assist in the implementation of compliance and enforcement provisions of the Toxic Substances Control Act (TSCA) and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). These grants support state and Tribal compliance activities to protect human health and the environment from harmful chemicals and pesticides. Under the Pesticides Enforcement Grant program, the EPA will continue to provide resources to states and tribes to conduct FIFRA compliance inspections and take appropriate enforcement actions. The Toxic Substances Compliance Grants protect the public and the environment from PCBs, asbestos, and lead-based paint.

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**Environmental Protection Agency
FY 2017 Annual Performance Plan and Congressional Justification**

**APPROPRIATION: Science & Technology
Resource Summary Table
(Dollars in Thousands)**

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Science & Technology				
Budget Authority	\$728,592.4	\$734,648.0	\$754,184.0	\$19,536.0
Total Workyears	2,102.3	2,199.7	2,203.7	4.0

*For ease of comparison, Superfund transfer resources for the audit and research functions are shown in the Superfund account.

Bill Language: Science and Technology

For science and technology, including research and development activities, which shall include research and development activities under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980; necessary expenses for personnel and related costs and travel expenses; procurement of laboratory equipment and supplies; and other operating expenses in support of research and development, \$754,184,000, to remain available until September 30, 2018. (Department of the Interior, Environment, and Related Agencies Appropriations Act, 2016.)

**Program Projects in S&T
(Dollars in Thousands)**

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Clean Air and Climate				
Clean Air Allowance Trading Programs	\$8,593.0	\$7,808.0	\$7,808.0	\$0.0
Climate Protection Program	\$7,353.0	\$8,018.0	\$8,127.0	\$109.0
Federal Support for Air Quality Management	\$7,530.8	\$7,467.0	\$8,624.0	\$1,157.0
Federal Vehicle and Fuels Standards and Certification	\$107,606.3	\$93,247.0	\$103,595.0	\$10,348.0
Subtotal, Clean Air and Climate	\$131,083.1	\$116,540.0	\$128,154.0	\$11,614.0
Indoor Air and Radiation				
Indoor Air: Radon Program	\$183.3	\$172.0	\$0.0	(\$172.0)
Radiation: Protection	\$2,129.4	\$1,835.0	\$3,062.0	\$1,227.0
Radiation: Response Preparedness	\$3,788.3	\$3,781.0	\$4,034.0	\$253.0
Reduce Risks from Indoor Air	\$309.9	\$209.0	\$414.0	\$205.0
Subtotal, Indoor Air and Radiation	\$6,410.9	\$5,997.0	\$7,510.0	\$1,513.0

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Enforcement				
Forensics Support	\$14,151.1	\$13,669.0	\$14,608.0	\$939.0
Homeland Security				
Homeland Security: Critical Infrastructure Protection	\$10,786.3	\$10,517.0	\$10,904.0	\$387.0
Homeland Security: Preparedness, Response, and Recovery	\$27,005.7	\$26,054.0	\$25,696.0	(\$358.0)
Homeland Security: Protection of EPA Personnel and Infrastructure	\$541.0	\$552.0	\$605.0	\$53.0
Subtotal, Homeland Security	\$38,333.0	\$37,123.0	\$37,205.0	\$82.0
IT / Data Management / Security				
Information Security**	\$100.0	\$0.0	\$0.0	\$0.0
IT / Data Management	\$3,171.0	\$3,089.0	\$3,092.0	\$3.0
Operations and Administration				
Facilities Infrastructure and Operations	\$67,222.2	\$68,339.0	\$78,447.0	\$10,108.0
Pesticides Licensing				
Pesticides: Protect Human Health from Pesticide Risk	\$2,880.9	\$3,128.0	\$2,887.0	(\$241.0)
Pesticides: Protect the Environment from Pesticide Risk	\$1,900.2	\$2,328.0	\$1,854.0	(\$474.0)
Pesticides: Realize the Value of Pesticide Availability	\$552.4	\$571.0	\$548.0	(\$23.0)
Subtotal, Pesticides Licensing	\$5,333.5	\$6,027.0	\$5,289.0	(\$738.0)
Research: Air, Climate and Energy				
Research: Air, Climate and Energy	\$84,453.4	\$91,906.0	\$101,151.0	\$9,245.0
Research: Safe and Sustainable Water Resources				
Research: Safe and Sustainable Water Resources	\$102,249.4	\$107,434.0	\$106,257.0	(\$1,177.0)
Research: Sustainable Communities				
Research: Sustainable and Healthy Communities	\$138,347.5	\$139,975.0	\$134,327.0	(\$5,648.0)
Research: Chemical Safety and Sustainability				
Human Health Risk Assessment	\$39,071.5	\$37,602.0	\$39,259.0	\$1,657.0
Research: Chemical Safety and Sustainability				
Endocrine Disruptors	\$17,772.9	\$16,253.0	\$15,381.0	(\$872.0)
Computational Toxicology	\$20,268.7	\$21,409.0	\$25,744.0	\$4,335.0

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Research: Chemical Safety and Sustainability (other activities)	\$53,017.8	\$51,666.0	\$53,837.0	\$2,171.0
Subtotal, Research: Chemical Safety and Sustainability	\$91,059.4	\$89,328.0	\$94,962.0	\$5,634.0
Subtotal, Research: Chemical Safety and Sustainability	\$130,130.9	\$126,930.0	\$134,221.0	\$7,291.0
Water: Human Health Protection				
Drinking Water Programs	\$3,487.4	\$3,519.0	\$3,923.0	\$404.0
Congressional Priorities				
Water Quality Research and Support Grants	\$4,119.0	\$14,100.0	\$0.0	(\$14,100.0)
TOTAL, EPA	\$728,592.4	\$734,648.0	\$754,184.0	\$19,536.0

*For ease of comparison, Superfund transfer resources for the audit and research functions are shown in the Superfund account.

**2015 Actuals included spending in Information Security that should be in IT / Data Management.

Program Area: Clean Air and Climate

Clean Air Allowance Trading Programs

Program Area: Clean Air and Climate

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Improve Air Quality

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$20,374.3	\$16,143.0	\$18,807.0	\$2,664.0
<i>Science & Technology</i>	<i>\$8,593.0</i>	<i>\$7,808.0</i>	<i>\$7,808.0</i>	<i>\$0.0</i>
Total Budget Authority / Obligations	\$28,967.3	\$23,951.0	\$26,615.0	\$2,664.0
Total Workyears	75.4	71.4	71.4	0.0

Program Project Description:

This program develops, implements, assesses, and provides regulatory, modeling, and emissions monitoring support for programs that address major regional and national air issues from the power sector and other large stationary sources. Clean air allowance trading programs help implement the National Ambient Air Quality Standards (NAAQS) and reduce toxics emissions and regional haze. Pollutants reduced include sulfur dioxide (SO₂), nitrogen oxides (NO_x), ground-level ozone, fine particulate matter (PM_{2.5}), and, as a co-benefit of SO₂ and NO_x emission reductions, mercury.

Carried long distances by wind and weather, power plant emissions of SO₂ and NO_x travel across state lines. As the pollution is transported, it reacts in the atmosphere and contributes to ground-level ozone (smog) and fine particles,¹ which are associated with significant human health effects including mortality and morbidity. Researchers have associated fine particle and smog exposure with adverse health effects in numerous toxicological, clinical and epidemiological studies.^{2,3} Transported SO₂ and NO_x emissions are significant contributors to nonattainment in many states in the eastern half of the U.S. and under the “good neighbor” provision of the Clean Air Act (CAA),⁴ upwind states must share responsibility for achieving air quality goals.

In July 2011, the EPA issued the Cross-State Air Pollution Rule (CSAPR). CSAPR, which took effect on January 1, 2015,⁵ requires 28 states to limit their state-wide emissions of SO₂ and/or NO_x

¹ Seinfeld, John H. and Spyros N. Pandis. Atmospheric Chemistry and Physics: From Air Pollution to Climate Change. John Wiley & Sons, Inc. (New York). 1998. Describes pollution transport and formation of ground-level ozone and fine particles in the atmosphere from sulfur dioxide and nitrogen oxides emissions.

² U.S. Environmental Protection Agency (U.S. EPA). 2009. Integrated Science Assessment for Particulate Matter (Final Report). EPA-600-R-08-139F. National Center for Environmental Assessment – RTP Division. December. Available on the Internet at <<http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=216546>>. Also, U.S. EPA. Provisional Assessment of recent Studies on the Health Effects of Particulate Matter Exposure. U.S. Environmental Protection Agency, Washington, D.C. EPA/600R-12/056, 2012. Available on the Internet at <<http://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=247132>>.

³ U.S. Environmental Protection Agency (U.S. EPA). 2013. Integrated Science Assessment for Ozone and Related Photochemical Oxidants. EPA/600/R-10/076F. Research Triangle Park, NC: U.S. EPA. February. Available on the Internet at <http://oaspub.epa.gov/eims/eimscomm.getfile?p_download_id=511347>.

⁴ Clean Air Act § 110(a)(2)(D), 40 U.S.C. § 7410(a)(2)(D).

⁵ CSAPR was stayed and then vacated by the D.C. Circuit Court of Appeals, but the Supreme Court reversed the D.C. Circuit’s opinion vacating the rule, EPA v. EME Homer City Generation, L.P., 134 S. Ct. 1584 (2014), and the D.C. Circuit subsequently lifted the stay. In July 2015, the D.C. Circuit issued a decision on remaining legal challenges to CSAPR, upholding

in order to reduce or eliminate the states' contributions to fine particulate matter and/or ground-level ozone pollution in other states. The emissions limitations are defined in terms of maximum state-wide "budgets" for emissions of annual SO₂, annual NO_x, and/or ozone-season NO_x from each state's large EGUs.

The EPA is responsible for managing the Clean Air Status and Trends Network (CASTNET), a long-term ambient and deposition monitoring network, established in 1987, which serves as the nation's primary source for atmospheric data on the dry component of acid deposition, rural ground-level ozone, and other forms of particulate and gaseous air pollution. Used in conjunction with the National Atmospheric Deposition Program (NADP) and other networks, CASTNET's long-term datasets and data products are used to determine the effectiveness of national and regional emission control programs through monitoring geographic patterns and temporal trends in ambient air quality and atmospheric deposition in non-urban areas of the country. Maintaining the CASTNET monitoring network continues to be critical for assessing the Acid Rain Program and regional programs that control transported emissions (thereby reducing secondary pollutant formation of ozone and fine particles). In FY 2017, CASTNET's rural ozone monitoring will contribute to implementation of the agency's final action in relation to the current review of the ozone standards.⁶

Surface water chemistry is a direct indicator of the environmental effects of acid deposition and enables assessment of how water bodies and aquatic ecosystems are responding to reductions in sulfur and nitrogen emissions. Surface water chemistry also is indicative of how water bodies and ecosystems are responding to climate change and other terrestrial factors. Two EPA-administered programs, the Temporally Integrated Monitoring of Ecosystems (TIME) program and the Long-Term Monitoring (LTM) program, were specifically designed to assess whether the 1990 Clean Air Act Amendments have been effective in reducing the acidity of surface waters in New England, the Adirondack Mountains, the Northern Appalachian Plateau (including the Catskill and Pocono mountains), and the Blue Ridge region (including streams in western Pennsylvania). Both programs are operated cooperatively with numerous partners in state agencies, academic institutions, and other federal agencies.

The TIME/LTM surface water chemistry monitoring program provides field measurements for understanding biogeochemical changes in sulfur, nitrogen, acid neutralizing capacity (ANC), aluminum, and carbon in streams and lakes in relation to changing pollutant emissions as well as for the emerging area of climate change detection and ecological response. The TIME/LTM program is one of the longest running projects in EPA history, providing an important long-term dataset based on sampling and measurements that go back to 1983.

the rule in most respects but remanding without vacatur several state budgets to the EPA for reconsideration. *EME Homer City Generation, L.P. v. EPA*, No. 11-1302, 2015 U.S. App. Lexis 13039 (D.C. Cir. July 28, 2015). The remanded budgets concern emissions during Phase 2 of the program, which begins in 2017. The EPA will address the remand in future actions.

⁶ 79 FR 75233 (December 17, 2014).

FY 2017 Activities and Performance Plan:

Reducing emissions of SO₂ and NO_x remains a crucial component of the EPA's strategy for improving air quality. Emissions of SO₂ and NO_x can be chemically transformed into sulfate and nitrates, tiny particles that, when inhaled, can cause serious respiratory problems and may lead to premature mortality. Winds can carry sulfates and nitrates hundreds of miles from the emitting source. These same small particles also are a main pollutant that impairs visibility across large areas of the country, particularly damaging in national parks known for their scenic views. Nitrogen oxides emissions also contribute substantially to the formation of ground-level ozone which, when inhaled in sufficient concentrations, can cause serious respiratory problems.

In FY 2017, the EPA will:

- Assure the continuation of ongoing NO_x and SO₂ emission reductions from power plants in the eastern half of the U.S. by implementing CSAPR.
- Provide assistance to states in developing and implementing state plans and rules for NO_x and SO₂ to control the transport of emissions and pollutants that significantly contribute to nonattainment or interference with maintenance of ozone and/or PM_{2.5} NAAQS in another state. Assist states in resolving issues related to source applicability, emissions monitoring, monitor certification, reporting, and permitting as desired by the affected states.
- Assist affected sources and states in complying with the EPA-administered emissions monitoring and reporting system supporting required continuous emissions monitoring systems (CEMS)⁷ to incorporate, process and quality assure additional data for power plants pursuant to the Mercury and Air Toxics Standards (MATS) Rule⁸ (*e.g.*, mercury monitor certification, mercury emissions, pertinent operating data, etc.) and the Carbon Pollution Standards for new, modified, and reconstructed power plants⁹ while operating and maintaining the system for emissions monitoring and reporting by clean air allowance trading programs. Maintain and modify, as needed, the operating infrastructure for implementation of clean air allowance trading and other programs (*e.g.*, MATS) using the EPA-administered emissions monitoring and reporting system for source compliance.
- Operate and maintain the EPA-administered clean air allowance trading systems. Conduct annual/seasonal reconciliation of facility emissions against allowances for compliance.
- Ensure effective and efficient operation of multi-state programs for controlling interstate emissions transport through ongoing maintenance and continuous improvement of the e-GOV infrastructure supporting the electronic emissions reporting, monitor certification, and compliance determination systems.

⁷ 40 C.F.R. pt. 75 (Continuous Emission Monitoring).

⁸ 40 C.F.R. pt. 63, subpt. UUUUU (National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units).

⁹ See 79 FR 1429 (January 8, 2014); 79 FR 34960 (June 18, 2014).

- Ensure accurate and consistent results for the programs. Successful air pollution control programs require accurate and consistent monitoring of source emissions and environmental results. Work will continue on performance specifications and investigating monitoring alternatives and methods to improve the efficiency of monitor certification and emissions data reporting.
- Continue quality assurance, analysis, and reporting of environmental data from the CASTNET deposition/rural ozone and TIME/LTM surface water monitoring networks. Analyze and assess trends in sulfur and nitrogen deposition, rural ozone concentrations, surface water quality, and other indicators of ecosystem health and ambient air quality in non-urban areas of the U.S.
- Work with states to develop emission reduction programs to comply with CAA Section 110(a)(2)(D) requirements. This includes regulations for reducing the interstate transport of NO_x emissions to address upwind states' significant contribution to nonattainment and interference with maintenance of the 2008 ozone NAAQS in downwind states. The EPA will work with states to create flexible approaches, such as applying the CSAPR framework, where they potentially could be more cost-effective than application of source-specific emission standards as well as to assess the feasibility of air pollution emission controls.

In FY 2017, the program will continue to manage the CASTNET ambient monitoring program and the TIME/LTM program for monitoring surface water chemistry and aquatic ecosystem response in sensitive areas of the U.S.¹⁰

Performance Targets:

Work under this program supports performance results in the Clean Air Allowance Trading program under the Environmental Programs and Management appropriation. These measures can also be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- No change in program funding.

Statutory Authority:

Clean Air Act

¹⁰ For additional information on CASTNET, please visit <http://epa.gov/castnet/javaweb/index.html>. For additional information on TIME/LTM, please visit <http://www.epa.gov/airmarkets/assessments/TIMELTM.html>.

Climate Protection Program

Program Area: Clean Air and Climate

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Address Climate Change

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$85,276.8	\$95,436.0	\$107,761.0	\$12,325.0
<i>Science & Technology</i>	<i>\$7,353.0</i>	<i>\$8,018.0</i>	<i>\$8,127.0</i>	<i>\$109.0</i>
Total Budget Authority / Obligations	\$92,629.8	\$103,454.0	\$115,888.0	\$12,434.0
Total Workyears	214.1	224.1	237.1	13.0

Program Project Description:

The Climate Protection Program supports implementation and compliance with greenhouse gas (GHG) emission standards for light-duty and heavy-duty vehicles developed under the EPA’s Federal Vehicle and Fuels Standards and Certification program. Resources under this program also support compliance activities for implementing the National Highway Traffic Safety Administration’s (NHTSA) Corporate Average Fuel Economy (CAFE) standards. Under authorities contained in the Clean Air Act and the Energy Policy Act, the EPA is responsible for issuing certificates and ensuring compliance with both the GHG and CAFE standards. These historic programs, including the standards for Model Years 2012-2025 will save American consumers about \$1.7 trillion in fuel costs, decrease the nation’s fuel consumption by 12.2 billion barrels of fuel and reduce more than 6 billion metric tons of GHG emissions over the life of the vehicles.

FY 2017 Activities and Performance Plan:

Resources under this program will support implementation and compliance activities associated with the EPA’s GHG and NHTSA’s fuel economy standards for light-duty and heavy-duty vehicles and engines. Resources will support the following activities:

Certification and Compliance – Implementation of the GHG emission standards for light-duty and heavy-duty vehicles and engines has significantly increased the EPA’s certification and compliance workload. These GHG emission standards are not only resulting in a changing fleet of vehicles but have also introduced numerous innovative features into the vehicle certification process that provide greater flexibility for manufacturers in how they comply with the standards. These features include new and more comprehensive trading programs, credits for off-cycle emission reductions, and new federal test procedures. Heavy-duty vehicle and engine certifications are expected to continue to increase. In FY 2014, the EPA issued 164 heavy-duty certificates. In FY 2015, that number increased to 194. Information technology systems (which provide an efficient means for manufacturers to apply for and receive certificates of conformity) will need to be updated to reflect the revised compliance and certification requirements of the new light-duty and heavy-duty GHG standards.

Vehicle and Engine Testing Services – Over the past several years, the EPA has invested significant resources to upgrade its vehicle and engine testing capacity and capability at its National Vehicle and Fuel Emissions Laboratory in order to implement new standards for fuel, vehicle, and engine emissions. This includes adding new four-wheel drive dynamometers and analytical systems needed to conduct certification testing of hybrid vehicles and vehicles operating on renewable fuels. In addition, a new cold temperature test facility to confirm that new light-duty vehicles are in compliance with mobile source air toxics emissions standards has been added. A new hot temperature testing facility that is used to confirm that new light-duty vehicles are in compliance with emission standards while operating in high temperatures and using air conditioning has also recently been added to the Laboratory. Finally, construction on a new heavy-duty certification test facility to address GHG emissions from heavy-duty vehicles has been completed. In FY 2017, the EPA will conduct and run testing operations in these new test cells. This modern testing helps ensure a level playing field between foreign and domestic manufacturers, revealing instances of non-compliance design, and can lead to equal opportunities for American manufacturers to benefit from developing innovative solutions to emissions challenges.

Performance Targets:

Work under this program supports the strategic objective Address Climate Change. Currently there are no performance measures specific to this program. Work under this program supports the FY 2016-2017 Agency Priority Goal (APG) to Reduce Greenhouse Gas Emissions from Cars and Trucks.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$297.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$188.0) This program change reflects a reduction in implementation and support activities.

Statutory Authority:

Clean Air Act; Pollution Prevention Act (PPA), §§ 6602-6605; National Environmental Policy Act (NEPA), § 102; Clean Water Act, § 104; Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), § 8001; Energy Policy Act of 2005, § 756

Federal Support for Air Quality Management

Program Area: Clean Air and Climate

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Improve Air Quality

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$122,762.3	\$124,743.0	\$162,374.0	\$37,631.0
<i>Science & Technology</i>	<i>\$7,530.8</i>	<i>\$7,467.0</i>	<i>\$8,624.0</i>	<i>\$1,157.0</i>
Total Budget Authority / Obligations	\$130,293.1	\$132,210.0	\$170,998.0	\$38,788.0
Total Workyears	765.7	842.0	848.0	6.0

Program Project Description:

Federal support for the criteria pollutant and air toxics programs includes a variety of tools to characterize ambient air quality and the level of risk to the public from air pollutants and to measure national progress toward improving air quality and reducing associated risks. The Federal Support for Air Quality Management program supports development of State Implementation Plans (SIPs) through modeling and other tools and assists states in implementing, maintaining, and enforcing the National Ambient Air Quality Standards (NAAQS) for criteria pollutants. The program also develops and provides information, training, and tools to assist state, Tribal, and local agencies, as well as communities, to reduce air toxics emissions and risk specific to their local areas. Finally, the program includes activities related to the Clean Air Act’s stationary source residual risk program, which involves an assessment of source categories subject to Maximum Achievable Control Technology (MACT) standards to determine if more stringent standards are needed to further reduce the risks to public health (taking into account developments in practices, processes, and control technologies).

FY 2017 Activities and Performance Plan:

As part of implementing the revised NAAQS, the EPA will continue providing state and local air quality agencies with assistance in developing SIPs during FY 2017. The EPA also will help states identify the most cost-effective control options available and provide guidance, as needed, to assist them with attaining the NAAQS. The EPA will ensure national consistency in how air quality modeling is conducted as part of regulatory decision-making including federal and state permitting programs as well as how conformity determinations are conducted across the U.S. The agency will work with state and local air quality agencies to ensure that particulate matter (PM) hot-spot analyses are conducted in a manner consistent with the transportation conformity regulation and guidance.

In FY 2017, the EPA will work with partners to continue improving emission factors and inventories, including the National Emissions Inventory. This effort includes gathering improved activity data and using geographic information systems and satellite remote sensing, where possible, for key point, area, mobile, and fugitive sources, and global emission events.

The EPA is working on improving monitoring systems to fill data gaps and get a better estimate of actual population exposure to toxic air pollution. The EPA will continue to provide Quality Assurance proficiency testing for federal and commercial laboratories that produce data from PM_{2.5} air monitoring systems to ensure quality data for use in determining air quality.

Communities do not always have sufficient air quality data at a local level to understand and act upon existing risks. In FY 2017, the EPA will continue to invest resources to help enable environmentally overburdened and underserved communities to monitor their air quality through investments in monitoring equipment and technical outreach.

Performance Targets:

Work under this program supports performance measures in the strategic objective Improve Air Quality. These measures can also be found in the Eight-Year Performance Array in the Program Performance and Assessment section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$247.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefits costs.
- (+\$910.0) This program change reflects an increase in support of developing guidance related to air quality monitoring devices to help ensure that as advanced monitoring equipment is deployed, there is adequate guidance to ensure data are appropriately interpreted.

Statutory Authority:

Clean Air Act.

Federal Vehicle and Fuels Standards and Certification

Program Area: Clean Air and Climate

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Address Climate Change; Improve Air Quality

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Science & Technology	\$107,606.3	\$93,247.0	\$103,595.0	\$10,348.0
Total Budget Authority / Obligations	\$107,606.3	\$93,247.0	\$103,595.0	\$10,348.0
Total Workyears	286.8	304.5	312.5	8.0

Program Project Description:

Under the Federal Vehicle and Fuels Standards and Certification program, the EPA develops, implements, and ensures compliance with national standards to reduce mobile source related air pollution from light-duty cars and trucks, heavy-duty trucks and buses, nonroad engines and vehicles, and from the fuels that power these engines. The program also evaluates emission control technology and provides state, Tribal, and local air quality managers and transportation planners with access to information on transportation programs and incentive-based programs. As part of ensuring compliance with national standards, the program tests vehicles, engines, and fuels, and establishes test procedures for federal emissions and fuel economy standards.

The National Vehicle and Fuel Emissions Laboratory (NVFEL) ensures air quality benefits and fair competition in the marketplace by conducting testing operations on motor vehicles, heavy-duty engines, nonroad engines, and fuels to certify that all vehicles, engines, and fuels that enter the U.S. market comply with all federal clean air and fuel economy standards. The NVFEL conducts vehicle emission tests as part of pre-production tests, certification audits, in-use assessments, and recall programs to ensure compliance with mobile source clean air programs.

The EPA works with states and local governments to ensure the technical integrity of the mobile source control emission benefits in State Implementation Plans (SIPs) and transportation conformity determinations. The EPA develops and provides information and tools to assist state, local, and Tribal agencies, as well as communities, to reduce air toxics emissions and risks specific to their local areas. Reductions in emissions of mobile source air toxics, such as components of diesel exhaust, are achieved through establishing national emissions standards and innovative partnership approaches working with state, local, and Tribal governments, as well as a variety of stakeholder groups.

FY 2017 Activities and Performance Plan:

Climate Change

In FY 2017, the EPA will continue to take action related to mobile sources to address climate change by focusing on the transportation sector’s largest contributors to greenhouse gas (GHG)

emissions. These efforts will include implementing the harmonized fuel economy and GHG emission standards for light-duty (LD) vehicles (two sets of standards for Model Years 2012-2016 and 2017-2025) and heavy-duty vehicles (Model Years 2014-2018). These standards were finalized by the EPA in coordination with the National Highway Traffic Safety Administration (NHTSA) and the EPA is responsible for implementing both the emission standards and significant aspects of the fuel economy standards. These new standards will save American consumers about \$1.7 trillion, decrease the nation's fuel consumption by 12.2 billion barrels of fuel and reduce more than 6 billion metric tons of greenhouse gas emissions over the life of the vehicles. The harmonized standards also will provide regulatory certainty to the marketplace and spur innovation in vehicle technology over the coming decade.

In FY 2015, the EPA and NHTSA proposed rules to establish a comprehensive Phase 2 Heavy-Duty (HD) National Program (covering Model Years 2018-2027) that will reduce greenhouse gas (GHG) emissions and fuel consumption for new on-road heavy-duty vehicles. The new phase of the national program for medium- and heavy-duty vehicles will benefit businesses and consumers, saving the industry billions of dollars' worth of fuel, reducing the costs for transporting goods, while reducing GHG emissions by 1 billion metric tons. The Phase 2 standards will spur innovation, encouraging the development and deployment of existing and advanced cost-effective technologies for a new generation of cleaner, more fuel-efficient commercial trucks; creating opportunities for job growth; and providing an opportunity for U.S. industry to build on its position as a world leader in fuel-efficient trucking technologies. The EPA will begin implementation efforts for this second phase of standards after comments are evaluated and the rule is finalized.

As part of the light-duty GHG standards for Model Years 2017-2025, the EPA committed to perform, in coordination with NHTSA and the California Air Resources Board (CARB), a Midterm Evaluation of the Model Year 2022-2025 GHG standards. The EPA is required to issue, jointly with NHTSA and CARB, a draft Technical Assessment Report no later than November 15, 2017, in order for the EPA to make a final determination on the appropriateness of the Model Year 2022-2025 standards by April 2018. To support the Midterm Evaluation, NVFEL is performing a comprehensive feasibility evaluation of advanced technologies, including testing on advanced engines, both naturally aspirated and downsized turbo-charged engines, as well as transmissions and various electrified vehicle technologies. This testing program will continue through 2017.

In FY 2017, the EPA will focus on manufacturer compliance with vehicle and commercial truck GHG emission standards under the FY 2016-17 Agency Priority Goal (APG) "Reduce greenhouse gas emissions from cars and trucks." This APG builds upon the successes of the FY 2014-2015 and FY 2012-2013 APGs related to reducing greenhouse gas emissions from transportation activities. The FY 2012-2013 APG focused on the implementation of the first light-duty vehicle standards (MY 2012-2016) and preparing for the implementation of heavy-duty standards (MY 2014-2018). The FY 2014-2015 APG focused on incorporating the light-duty GHG standards for model years 2017-2025 and transitioning from the voluntary early credit earning phase (i.e., credit banking/trading, off-cycle credits, air-conditioning improvement credits) to full implementation of the 2014-2018 heavy-duty rule.

The EPA also will continue work to assess GHG emissions from nonroad sources. The EPA is participating in international forums for ocean-going vessels (International Maritime Organization-IMO) and aircraft (International Civil Aviation Organization-ICAO) to address GHG emissions from these sources. As part of the U.S. delegation to IMO, the EPA is developing a ship efficiency program for international shipping in coordination with the State Department and the U.S. Coast Guard. The EPA also is coordinating its efforts with the Federal Aviation Administration (FAA) to develop GHG standards and testing procedures for aircraft at ICAO. As a first step in addressing GHG emissions from aircraft engines, EPA proposed a GHG endangerment finding in June 2015. The proposed finding described the contribution of aircraft engines to air pollution that causes climate change and endangers public health and welfare. As part of this action, the EPA also issued an Advance Notice of Proposed Rulemaking providing information on the process for setting an international CO₂ emission standard and seeking input on the adoption and implementation of such a standard. A final decision on an international CO₂ standard for aircraft is expected at ICAO in 2016. Under such outcome, the EPA will be working on implementing the ICAO CO₂ standard through a domestic rule in FY 2017.

In FY 2017, the EPA will oversee compliance with vehicle fuel economy labeling requirements, which provide consumers with GHG as well as fuel economy information. The label enables consumers to compare the energy and environmental impacts of both conventional and advanced technology vehicles, including electric vehicles, plug-in hybrid electric vehicles and hydrogen fuel cell vehicles. Consumers can use information on the label to make car-by-car comparisons to help save on fuel costs and reduce emissions.

In the fuels area, the EPA will continue to implement the Renewable Fuels Standard (RFS) program and to carry out several other actions required by the Energy Policy Act (EPAct) of 2005 and the Energy Independence and Security Act (EISA) of 2007. EISA dramatically expanded the renewable fuels provisions of EPAct and requires additional studies in various areas of renewable fuel use. EISA requires that the EPA set an annual volume standard for renewable fuels and the 2018 RFS volume requirements are statutorily required to be promulgated in FY 2017.

EISA also requires the EPA to develop a comprehensive lifecycle GHG methodology to implement the Act's GHG threshold requirements for the RFS. Producers of new and advanced biofuels regularly seek to qualify their fuels under RFS and the EPA will continue to apply its lifecycle analysis to such fuels to evaluate and determine eligibility for the program.

In FY 2017, the EPA will maintain oversight of the RFS program and continue to evaluate compliance with RFS provisions through its moderated transaction system, which is used to track the creation, trades, and use of billions of Renewable Identification Numbers (RINs) for compliance. The tracking system handles 4,000 to 6,000 submissions per day, typically averaging more than 20,000 transactions per day, and the generation of more than 1.4 billion RINs per month. RINs are generated with the production of qualifying renewable fuel and are used to achieve national RFS programmatic goals of reducing or replacing the quantity of petroleum-based transportation fuel, heating oil, or jet fuel.

In FY 2017, the EPA also plans to conduct a fuel program review to streamline regulations. This program overhaul will revise fuel regulations to reduce implementation burden for both the EPA and industry, while improving enforceability and maintaining and/or improving environmental performance. The revised regulations are aimed to reflect today's diverse fuel supply.

In FY 2017, the EPA will integrate its Fuel and Fuel Additive Registration Reporting System into the Electronic Fuels Unified Reporting project. The Fuels Unified Reporting project is one of a handful of systems that is being included in the first set of offerings as part of the EPA's work under the E-Enterprise approach to developing new customer-facing web services. The fuels and fuel additive universe includes approximately 600 fuel manufacturers, 1,250 additive manufacturers, 850 registered fuels, and 8,250 registered additives. The Electronic Fuels Unified Reporting project is reducing regulatory reporting burden through hours saved by reducing the number of reports and duplicate fields, reusing existing data elements in a company's profile, previous reports, or data entered in other data systems (EPA Moderated Transaction System (EMTS)), and providing an easy to use interface with guidance built into the web-form. The EPA anticipates a 10% time reduction under RFS and a 20% reduction under other fuels programs for an estimated 170 thousand annual hour reduction in time spent by regulated parties. Through the Electronic Fuels Unified Reporting project, the EPA will transform 66 quarterly and annual reports with some 1,300 data fields, currently submitted to the EPA in multiple formats, into a single quarterly web-form report. Manufacturers also will save through reduced costs in the preparation of the reports and the elimination of paper, ink, and delivery costs.

Criteria Pollutants and Mobile Source Air Toxics

In FY 2017, in addition to CO₂ reductions, the EPA will continue to achieve results in reducing criteria pollutants from mobile sources, especially nitrogen oxide (NO_x) emissions associated with national emissions standards included in the EPA's National Clean Diesel Campaign. The Tier 2 Vehicle program, which took effect in 2004, resulted in new cars, SUVs, and pickup trucks that are 77 to 95 percent cleaner than 2003 models. The Clean Trucks and Buses program, which began in 2007, resulted in new highway diesel engines that are as much as 95 percent cleaner than previous models. For nonroad diesels, the Ultra-Low Sulfur Diesel (ULSD) standards reduced sulfur in off-highway diesel fuel by more than 99 percent facilitating more stringent engine standards. Implementation of the Locomotive and Marine Engines Rule's new engine requirements in conjunction with ULSD will reduce dangerous fine particle (PM) emissions by 90 percent and NO_x by 80 percent for newly-built locomotives and marine diesel engines. Recent standards to control emissions from ocean-going vessels will reduce NO_x emission rates by 80 percent and PM emission rates by 85 percent.

In 2014, the EPA finalized a comprehensive program (Tier 3) further reducing the impacts of motor vehicles on air quality and public health. The Tier 3 program considers the vehicle and its fuel as an integrated system, setting new vehicle emissions standards for hydrocarbons, NO_x and PM and lowering the sulfur content of gasoline beginning in 2017. The vehicle standards will reduce both tailpipe and evaporative emissions from passenger cars, light-duty trucks, medium-duty passenger vehicles, and some heavy-duty vehicles. The gasoline sulfur standard will enable more stringent vehicle emissions standards and will make emissions control systems more effective. Combined, in 2030 these measures are estimated to prevent about 40,000 premature deaths each year, reduce about 12 million tons of pollution a year, and prevent hundreds of thousands of respiratory illnesses, avoiding over 34,000 hospital admissions and about 4.8 million lost work days.

The EPA's modeling shows that additional reductions to criteria pollutant emissions from light-duty vehicles will be key in helping areas maintain and attain the ozone, PM, and nitrogen

dioxide (NO₂) National Ambient Air Quality Standards (NAAQS) and in reducing exposure to toxics for the millions of people living, working, or going to school near major roads. In FY 2017, the EPA will continue implementing the Tier 3 standards for light-duty vehicles and certifying manufacturers' fleets for vehicle Model Year 2017. The EPA will use newly deployed data system capabilities, test procedures and equipment to meet the requirements of the light-duty Tier 3 standards. Because the EPA is responsible for establishing the test procedures needed to measure tailpipe emissions and for verifying manufacturers' vehicle fuel economy data, the EPA will deploy its laboratory testing resources to ensure that new cars and trucks are in compliance with the more stringent Tier 3 emissions standards. For light-duty and heavy-duty vehicles, the EPA will continue assessing the need for further reductions in criteria pollutants through real-world emission characterization, technology assessment, and the evaluation of vehicle activity.

The following is a summary table of the benefits and costs of mobile source standards that have taken effect over the last decade.

2030 Annual Benefits and Costs for Six Major Rules							
2030	Light-duty Tier 2	Heavy-Duty 2007	Nonroad Diesel Tier 4	Locomotive & Marine Diesel	Oceangoing Vessel Strategy	Tier 3 Vehicle and Fuels	Totals
NO_x (short tons)	2,800,000	2,600,000	738,000	795,000	1,200,000	330,000	8,463,000
PM 2.5 (short tons)	36,000	109,000	133,000	27,000	143,000	7,900	455,900
VOC (short tons)	401,000	115,000	30,000	43,000	0	170,000	759,000
SO_x (short tons)	281,000	142,000	375,000	0	1,300,000	13,000	2,111,000
Total Cost (billion)	\$5.3	\$4.3	\$2.1	\$0.7	\$3.1	\$1.5	\$17
Total Monetized Benefits (billion)	\$25	\$66	\$83	\$11	\$110	\$9.2	\$304
Avoided Premature Mortality	4,300	8,300	12,000	1,300	13,000	960	39,860
Avoided Hospital Admissions	3,000	7,100	8,900	1,130	12,400	1,500	34,030
Avoided lost work days	680,000	1,500,000	1,000,000	120,000	1,400,000	81,000	4,781,000

The EPA will continue working with the International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO) to develop further programs to control conventional pollutant emissions from marine and aircraft engines, respectively. The EPA will work with ICAO on its program to develop international action plans to reduce PM emissions from international civil aviation. In addition, the EPA will continue its efforts, in coordination with the Federal Aviation Administration (FAA), to evaluate endangerment from lead emissions from piston-engine aircraft using leaded aviation gasoline. In FY 2017, EPA plans to develop a proposal on the issue of whether aircraft lead emissions cause or contribute to endangerment.

The EPA has achieved major improvements in the area of emissions modeling with the implementation of its emission model called the Motor Vehicle Emissions Simulator (MOVES), which underwent a major upgrade in 2014 and further improvements in 2015. MOVES is greatly improving the EPA's ability to support the development of emission control programs, as well as providing support to states in their determination of program needs to meet air quality standards. In FY 2017, the EPA will continue incorporating new data gathered from emission testing programs and expanding the application of the model to include additional sources, toxic emissions, and the integration of nonroad sources into the MOVES architecture. A critical part of the EPA's support of states' emissions modeling efforts includes full disclosure of modeling information, comprehensive technical documentation on our website, and opportunities for training for stakeholders. This supports states in remaining current with the latest modeling and methodology that serves as the basis for protecting air quality in their communities.

Vehicle Testing and Certification

The EPA will continue to ensure manufacturer compliance with federal clean air and fuel economy standards through pre-production tests, certification audits, in-use assessments, and recall programs. Tests are conducted as a spot check comparison for motor vehicles, heavy-duty engines, nonroad engines, and fuels to: 1) certify that vehicles and engines meet federal air emission and fuel economy standards; 2) ensure engines comply with in-use requirements; and 3) ensure fuels, fuel additives, and exhaust compounds meet federal standards. In FY 2017, EPA will further broaden the expanded testing protocols the agency initiated in response to recent revelations of defeat devices in diesel passenger cars. The testing will screen for defeat devices and other emissions problems in both new and in-use vehicles and engines. The EPA also will continue to conduct testing activities for emissions, fuel economy, gasoline sulfur, reformulated gasoline, ultra-low sulfur diesel, alternative fuel vehicle conversion certifications, on-board diagnostics (OBD) evaluations, certification audits, and recall programs.

In FY 2017, the EPA will use its upgraded vehicle, engine, and fuel testing capabilities at the NVFEL to increase testing and certification capacity to ensure that new vehicles, engines, and fuels are in compliance with new vehicle and fuel standards and to conduct aggressive testing to identify the use of defeat devices. In FY 2017, the EPA anticipates reviewing and approving about 5,000 vehicle and engine emissions certification requests, including light-duty vehicles, heavy-duty diesel engines, nonroad engines, marine engines, locomotives, and others. This represents a significant increase in demand for the EPA's certification services over the last two decades, due in part to the addition of certification requirements for stationary engines and for marine, other nonroad, and small spark-ignited engines. The EPA uses in-use emissions data provided by light-duty vehicle manufacturers as a means to measure compliance and determine if any follow-up evaluation or testing is necessary. Since 2000, light-duty vehicle manufacturers have been required, by regulation, to test a number of newer and older in-use vehicles and provide the data to the EPA. The EPA receives over 2,100 test results annually. The EPA reviews the data and determines if there are any specific vehicles, models, or manufacturers that are having problems complying with the emission standards. If there are a number of vehicles that are failing emissions in-use, the EPA will procure some of the same vehicles and perform further emission testing to assess whether there is an emission problem that needs to be

addressed. The EPA also uses this information to determine if there are vehicle models that should be targeted for testing for the upcoming model year prior to granting the manufacturer a certificate of conformity which allows the manufacturer to sell vehicles in the U.S. By having manufacturers test in-use vehicles, the EPA has access to far more data than could be cost-effectively generated by the EPA on its own. This also allows the EPA to focus its testing efforts on vehicles that have already been screened and determined to have a potential problem.

State and Local Implementation

As part of implementing the eight-hour ozone and fine particulate matter (PM_{2.5}) standards, the EPA will continue to provide state and local governments with substantial assistance in developing State Implementation Plans (SIPs) and providing assistance with transportation conformity determinations during this period. In FY 2017, the EPA will continue to work with states and local governments to ensure the technical integrity of the mobile source emission estimates in the SIPs. The EPA will assist in identifying control options available and provide guidance, as needed. In addition, the EPA will ensure national consistency in how conformity determinations are conducted across the United States and consistency in the development of motor vehicle emissions budgets in air quality plans, for use in conformity determinations.

The EPA will continue to provide assistance to state and local transportation and air quality agencies working on PM_{2.5} hot-spot analyses. This will help ensure that analyses use the latest available information and that a measure of consistency exists across the nation.

The EPA will continue partnering with states to support inspection and maintenance (I/M) programs that focus on in-use vehicles and engines. Basic and/or enhanced I/M testing is currently being conducted in over 30 states with technical and programmatic guidance from the EPA.

In FY 2017, the EPA will continue to work with a broad range of stakeholders to develop targeted, sector-based, and place-based incentives for diesel fleets (including school buses, ports, and freight) to limit emissions from older, pre-2007 diesel engines not subject to stringent emissions standards. Because large numbers of people live near ports and are vulnerable to mobile source diesel emissions, the EPA will focus its efforts on reducing mobile source emissions in and around ports. The EPA will seek balanced stakeholder advice through the Mobile Source Technical Review Subcommittee of the Clean Air Act Advisory Committee on its approach to reducing these port-related emissions. The EPA also is working with industry to bring about field testing and emissions testing protocols for a variety of innovative energy-efficient, emissions reducing technologies for the legacy fleet.

Performance Targets:

Measure	(N35) Limit the increase of Carbon Monoxide (CO) emissions from mobile sources compared to a 2000 baseline.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	1.69	1.86	2.02	2.19	2.36	2.53	2.70	2.87	Tons Emitted
Actual	1.69	1.86	2.02	2.19	2.36	2.53			

Measure	(O33) Cumulative millions of tons of Volatile Organic Compounds (VOCs) reduced since 2000 from mobile sources.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	1.71	1.88	2.05	2.23	2.4	2.57	2.74	2.91	Tons Reduced
Actual	1.71	1.88	2.05	2.23	2.4	2.57			

Measure	(O34) Cumulative millions of tons of Nitrogen Oxides (NOx) reduced since 2000 from mobile sources.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	3.39	3.73	4.07	4.41	4.74	5.08	5.42	5.76	Tons Reduced
Actual	3.38	3.73	4.07	4.41	4.74	5.08			

Measure	(P34) Cumulative tons of PM-2.5 reduced since 2000 from mobile sources.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	122,434	136,677	146,921	159,164	171,407	183,651	195,895	208,138	Tons Reduced
Actual	122,434	136,677	146,921	159,164	171,407	183,651			

Work under this program also supports performance results in the Federal Support for Air Quality Management program under the Environmental Programs and Management appropriation. These measures can also be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$4,464.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support and benefit costs.
- (+\$622.0 / +4.0 FTE) This reflects a realignment of resources to further support testing at the agency’s National Vehicle and Fuel Emissions Laboratory and includes an increase of 4.0 FTE with associated payroll of \$622.0.
- (+\$4,230.0/ +2.0 FTE) This program change reflects an increase to support actions required by EPC Act and EISA and to enhance vehicle, engine, and fuel compliance programs, including critical testing capabilities. Funds will help to ensure development of, eligibility determination, and compliance with emission and fuel standard requirements.
- (+\$1,032.0 / +2.0 FTE) This program change reflects an increase that builds upon the program’s success in attaining GHG reductions within the transportation sector domestically and sharing that expertise and technical assistance internationally with a focus on heavy duty trucks.

Statutory Authority:

Title II of the Clean Air Act; Motor Vehicle Information Cost Savings Act; Alternative Motor Fuels Act of 1988; National Highway System Designation Act; Energy Policy Act of 1992; Safe,

Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU);
Energy Policy Act of 2005; Energy Independence and Security Act of 200

Program Area: Indoor Air and Radiation

Indoor Air: Radon Program

Program Area: Indoor Air and Radiation

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Improve Air Quality

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$2,946.8	\$2,910.0	\$3,413.0	\$503.0
Science & Technology	\$183.3	\$172.0	\$0.0	(\$172.0)
Total Budget Authority / Obligations	\$3,130.1	\$3,082.0	\$3,413.0	\$331.0
Total Workyears	8.7	10.6	10.6	0.0

Program Project Description:

Title III of the Toxic Substances Control Act (TSCA) authorized the EPA to undertake a variety of activities to address the public health risks posed by exposures to indoor radon. Under the statute, the EPA studied the health effects of radon, assessed exposure levels, set an action level, and advised the public of steps they can take to reduce exposure. The EPA also evaluated mitigation methods, instituted training centers to ensure a supply of competent radon service providers, established radon contractor proficiency programs, and assisted states with program development through the administration of a grants program.

This program, combined with the Indoor Air: Radon EPM Program, supported the National Center for Radiation Field Operations (NCRFO) in Las Vegas, NV. NCRFO is the only federal National Institute of Standards and Technology (NIST) radon laboratory.

FY 2017 Activities and Performance Plan:

There is no request for this program in FY 2017 in the S&T appropriation. Because exposure to radon gas continues to be an important risk to human health, at the Federal level, the EPA will continue its headquarters program, including implementation of the National Radon Action Plan.

Performance Targets:

Work under this program also supports performance results in Indoor Air: Radon Program under Environmental Programs and Management and can be found in the Performance Eight-Year Array in the Program Performance and Assessment section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$172.0) This program change reflects the elimination of funding support in the Science and Technology Appropriation for radon testing.

Statutory Authority:

Title III of the Toxic Substances Control Act (TSCA); Title IV of the Superfund Amendments and Reauthorization Act of 1986 (SARA); Clean Air Act.

Reduce Risks from Indoor Air

Program Area: Indoor Air and Radiation

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Improve Air Quality

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$16,607.2	\$13,733.0	\$14,187.0	\$454.0
Science & Technology	\$309.9	\$209.0	\$414.0	\$205.0
Total Budget Authority / Obligations	\$16,917.1	\$13,942.0	\$14,601.0	\$659.0
Total Workyears	47.1	40.7	40.7	0.0

Program Project Description:

Title IV of the Superfund Amendments and Reauthorization Act of 1986 (SARA) gives the EPA broad authority to conduct and coordinate research on indoor air quality, develop and disseminate information, and coordinate efforts at the federal, state, and local levels.

The EPA will conduct field measurements and assessments and provide technical support for indoor air quality remediations, when requested. The EPA’s indoor air quality technical assistance and training work is primarily focused toward Tribal communities and cost-effectively meets an identified need for federal assistance.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to provide limited support to Tribal communities with field measurements and assessments, upon request, and provide technical support for indoor air quality remediation.

Performance Targets:

Work under this program supports performance results in the Reduce Risks from Indoor Air Program under the Environmental Programs and Management appropriation. These measures can also be found in the Eight Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$131.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$74.0) This program change reflects an increase for technical support for indoor air quality remediations.

Statutory Authority:

Title III of the Toxic Substances Control Act (TSCA); Title IV of the Superfund Amendments and Reauthorization Act of 1986 (SARA); Clean Air Act.

Radiation: Protection

Program Area: Indoor Air and Radiation

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Minimize Exposure to Radiation

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$8,167.4	\$8,443.0	\$8,975.0	\$532.0
<i>Science & Technology</i>	<i>\$2,129.4</i>	<i>\$1,835.0</i>	<i>\$3,062.0</i>	<i>\$1,227.0</i>
Hazardous Substance Superfund	\$1,869.5	\$1,985.0	\$2,182.0	\$197.0
Total Budget Authority / Obligations	\$12,166.3	\$12,263.0	\$14,219.0	\$1,956.0
Total Workyears	56.8	59.1	59.1	0.0

Program Project Description:

The EPA will continue to support waste site characterization and cleanup by providing field and fixed laboratory environmental radioanalytical data and technical support, radioanalytical training to state and federal partners, and by developing new and improved radioanalytical methods. This program supports the ongoing radiation protection capability at the National Analytical Radiation Environmental Laboratory (NAREL) in Montgomery, Alabama, and the National Center for Radiation Field Operations (NCRFO) in Las Vegas, Nevada. These two organizations for analytical and field operations provide radioanalytical and mixed waste testing, quality assurance, analysis of environmental samples, field radiological support, and field measurement systems and equipment to support site assessment, cleanup, and response activities in the event of a radiological accident or incident.

Together, these organizations provide technical support for conducting site-specific radiological characterizations and cleanups, using the best available science to develop risk assessments. They also develop guidance, in collaboration with the public, industry, states, tribes, and other governments, for cleaning up Superfund and other sites that are contaminated with radioactive materials.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA, in cooperation with states, tribes, and other federal agencies, will provide limited ongoing site characterization and analytical support for site assessment activities, remediation technologies, and measurement and information systems. The EPA also will provide analytical support to states and industry through its Radon Calibration and Intercomparison Program, located at NAREL, to assist with radon measurement accuracy. The EPA also will provide training and direct site assistance, including limited field surveys and monitoring, laboratory analyses, health and safety, and risk assessment support at sites with actual or suspected radioactive contamination. Some of these sites are located near at-risk communities, emphasizing the Administration's commitment to protect vulnerable communities.

NAREL and NCRFO will continue to support regional Superfund Remedial Project Managers and On-Scene Coordinators, providing laboratory and field-based radioanalytical and mixed waste analyses, technical services, site characterization consultations, guidance, and quality assurance oversight.

Performance Targets:

Work under this program supports performance results in the Radiation: Protection program under the Environmental Programs and Management appropriation. These measures can also be found in the Eight-Year Performance Array in the Program Performance and Assessment section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$230.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$845.0) This program change reflects an increase in support of site assessment activities related to consolidation of the EPA laboratory facilities in Las Vegas, including disposal of radioactive sources and chemicals.
- (+\$152.0) This reflects an increase in fixed lab costs related to the National Analytical Radiation Environmental Laboratory (NAREL) and National Center for Radiation Field Operations (NCRFO).

Statutory Authority:

Atomic Energy Act of 1954; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (EPA’s organic statute); Clean Air Act; Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); Energy Policy Act of 1992; Nuclear Waste Policy Act of 1982; Public Health Service Act; Safe Drinking Water Act; Uranium Mill Tailings Radiation Control Act (UMTRCA) of 1978; Waste Isolation Pilot Plant Land Withdrawal Act of 1992; Marine Protection, Research, and Sanctuaries Act; Clean Water Act

Radiation: Response Preparedness

Program Area: Indoor Air and Radiation

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Minimize Exposure to Radiation

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$2,535.7	\$2,550.0	\$3,333.0	\$783.0
<i>Science & Technology</i>	\$3,788.3	\$3,781.0	\$4,034.0	\$253.0
Total Budget Authority / Obligations	\$6,324.0	\$6,331.0	\$7,367.0	\$1,036.0
Total Workyears	37.3	39.2	39.2	0.0

Program Project Description:

The National Analytical Radiation Environmental Laboratory (NAREL) in Montgomery, Alabama, and the National Center for Radiation Field Operations (NCRFO) in Las Vegas, Nevada, provide laboratory analyses, field sampling and analyses and direct scientific support to respond to radiological and nuclear incidents. This work includes measuring and monitoring radioactive materials and assessing radioactive contamination in the environment. This program comprises direct scientific field and laboratory activities to support preparedness, planning, training, and procedure development. In addition, selected personnel are members of the EPA's Radiological Emergency Response Team (RERT), a component of the agency's emergency response program, and are trained to provide direct expert scientific and technical assistance in the field. The EPA's Office of Radiation and Indoor Air program's RERT asset is identified as an agency Critical Infrastructure/Key Resource (CI/KR).

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA's RERT will continue to provide support for federal radiological emergency response and recovery operations under the National Response Framework (NRF) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). They also will support field operations with on-site technical support/consultation, fixed laboratory and limited mobile laboratory analyses to provide rapid and accurate radionuclide analyses of environmental samples.¹¹

In FY 2017, NAREL and NCRFO will continue to develop rapid deployment capabilities to ensure that field teams are ready to provide scientific data, analyses, and updated analytical techniques for radiation emergency response programs across the agency. Both organizations also will maintain limited readiness for radiological emergency responses; participate in the most critical emergency exercises; provide on-site scientific support to state radiation, solid waste, and health programs that regulate radiation remediation; participate in the Protective Action Guidance (PAG) development and application; and respond, as required, to radiological incidents.

¹¹ Additional information can be accessed at: <http://www.epa.gov/radiation/rert/>

Performance Targets:

Work under this program supports performance results in the Radiation: Response Preparedness program under the Environmental Programs and Management appropriation. These measures can also be found in the Eight-Year Performance Array in the Program Performance and Assessment section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$55.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$308.0) This program change reflects an increase for technical radiation expertise and support for core emergency response programs.

Statutory Authority:

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); Homeland Security Act of 2002; Atomic Energy Act of 1954; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (EPA’s organic statute); Clean Air Act; Post-Katrina Emergency Management Reform Act of 2006 (PKEMRA); Public Health Service Act (PHSA); Robert T. Stafford Disaster Relief and Emergency Assistance Act; Safe Drinking Water Act (SDWA)

Program Area: Enforcement

Forensics Support

Program Area: Enforcement

Goal: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

Objective(s): Enforce Environmental Laws to Achieve Compliance

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Science & Technology</i>	<i>\$14,151.1</i>	<i>\$13,669.0</i>	<i>\$14,608.0</i>	<i>\$939.0</i>
Hazardous Substance Superfund	\$2,439.5	\$1,089.0	\$1,150.0	\$61.0
Total Budget Authority / Obligations	\$16,590.6	\$14,758.0	\$15,758.0	\$1,000.0
Total Workyears	81.0	80.3	80.3	0.0

Program Project Description:

The EPA's Forensics Support program provides expert scientific and technical support for the nation's most complex civil and criminal enforcement cases, as well as technical expertise for the agency's compliance efforts. The EPA's National Enforcement Investigations Center (NEIC) is an environmental forensic center accredited for both laboratory and field sampling operations that generate environmental data for law enforcement purposes. It is fully accredited under International Standards Organization (ISO) 17025, the main standard used by testing and calibration laboratories, as recommended by the National Academy of Sciences.¹² The work of the NEIC is critical to determining non-compliance and building viable enforcement cases. The NEIC maintains a sophisticated chemistry laboratory and a corps of highly trained inspectors and scientists with expertise across media. The NEIC works closely with the EPA's Criminal Investigation Division to provide technical support (e.g., sampling, analysis, consultation and testimony) to criminal investigations. The NEIC also works closely with the EPA's Headquarters and Regional Offices to provide technical assistance, consultation, on-site inspection, investigation, and case resolution services in support of the agency's Civil Enforcement program.

FY 2017 Activities and Performance Plan:

The NEIC will continue to apply its technical resources in support of the agency's national civil and criminal enforcement priorities. Initiatives to stay at the forefront of environmental enforcement in FY 2017 will include: improvements in inspection methods used at Resource Conservation and Recovery Act regulated facilities; exploring new technologies such as advanced remote sensing for on-site air and water sampling for toxic and non-conventional pollutants; and developing methods of evaluating electronic databases. These databases will include both those developed by regulated entities as a result of self-monitoring and those generated by innovative Next Generation enforcement monitoring techniques. The EPA requests a modest increase in FY 2017 to allow the NEIC to continue its high quality forensics support work by providing essential maintenance of the NEIC laboratory.

¹² Strengthening Forensic Science in the United States: A Path Forward, National Academy of Sciences, 2009, available at http://www.nap.edu/catalog.php?record_id=12589.

As part of the NEIC's research into new technologies for air and water monitoring, the NEIC will continue to deploy its Geospatial Measurement of Air Pollution (GMAP) monitoring capabilities by field testing its mobile monitoring vehicle and verifying on-site, real-time results with laboratory measurements. This research contributes to the EPA's ongoing efforts to better locate and characterize difficult to measure air pollution sources using mobile measurements and sensor networks. The NEIC also will continue to deploy fence-line passive air sampling techniques to increase awareness of human and environmental exposures to air contaminants. Additionally, the NEIC will continue to work with its partners in the agency's research and development programs to field test other advanced monitoring equipment like Light Detection and Ranging (LIDAR) and real-time, in situ water monitoring systems. Another focus will be to work with various agency offices in their efforts to develop more enforceable regulations. In response to case needs, the NEIC will conduct applied research and development to identify, develop, and deploy new capabilities, test and/or enhance existing methods and techniques, and provide technology transfer to other enforcement personnel involving environmental measurement and forensic applications. Two specific areas of development are deployment of a mobile mass spectrometer to increase the number of toxic pollutants that can be monitored *in situ* in real time, and the application of nuclear magnetic resonance and mass spectral techniques for the detection of pharmaceuticals and other new pollutants in surface waters. NEIC will continue to develop specialized analytical techniques for enforcement in areas such as electronic wastes, catalytic converters, fuel tank membranes, and pesticide formulations.

The FY 2017 request will allow the NEIC to continue its high quality forensics work by supporting existing personnel and necessary maintenance and repair for the NEIC laboratory. These resources are critical to fund essential support costs associated with maintaining the agency's analytical instrument service contracts, which will minimize the downtime resulting from instrument failures. Specifically, these resources would allow the EPA to replace aging analytical instruments, acquire new measurement technologies, and allow the NEIC to continue functioning under the rigorous ISO 17025 requirements for environmental data measurements. These requirements include internal and external auditing of Lean principles to refine and improve operations. Additionally, this request will enable the NEIC to continue to participate in the agency's efforts to consolidate its laboratories as part of the government-wide initiative to improve space and resource efficiency. In support of that effort, in FY 2017 the EPA will continue the planning and construction necessary to co-locate the Region 8 laboratory into the current NEIC laboratory space. Funding for the laboratory co-location is included under the Building and Facilities appropriation for Facility Infrastructure and Operations program.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$401.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.

- (+\$538.0) This program change reflects an increase in funds for essential operation and maintenance costs for the National Enforcement Investigations Center's (NEIC) laboratory. Funding will be used for equipment maintenance support and laboratory supplies used to collect and analyze pollutant samples in the pursuit of investigations and enforcement cases.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute); Resource Conservation and Recovery Act; Clean Water Act; Safe Drinking Water Act; Clean Air Act; Toxic Substances Control Act; Residential Lead-Based Paint Hazard Reduction Act; Federal Insecticide, Fungicide, and Rodenticide Act; Ocean Dumping Act (i.e., MPRSA); Emergency Planning and Community Right-to-Know Act.

Program Area: Homeland Security

Homeland Security: Critical Infrastructure Protection

Program Area: Homeland Security

Goal: Protecting America's Waters

Objective(s): Protect Human Health

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Science & Technology</i>	<i>\$10,786.3</i>	<i>\$10,517.0</i>	<i>\$10,904.0</i>	<i>\$387.0</i>
Environmental Program & Management	\$1,147.3	\$972.0	\$1,020.0	\$48.0
Total Budget Authority / Obligations	\$11,933.6	\$11,489.0	\$11,924.0	\$435.0
Total Workyears	21.6	23.1	23.1	0.0

Program Project Description:

This program provides resources to coordinate and support protection of the nation's critical water infrastructure from terrorist threats and all-hazard events. Reducing risk in the water sector requires a multi-step approach to: determine risk through vulnerability, threat, and consequence assessments; reduce risk through security and resiliency enhancements; prepare to effectively respond to and recover from incidents; and measure the water sector's progress in risk reduction. The Public Health Security and Bioterrorism Response and Preparedness Act of 2002 (Bioterrorism Act) directs the EPA to support the water sector in such activities.¹³ In addition, the President has further delineated the EPA's security and resiliency responsibilities under Presidential Policy Directive 21 (*Critical Infrastructure Security and Resilience*), Homeland Security Presidential Directive 9 (*Defense of Food and Agriculture*), and Executive Order 13636 (*Improving Critical Infrastructure Cybersecurity*). The water security program also provides the tools and technical assistance to advance the long-term sustainability of water sector infrastructure and supplies by incorporating climate change and resiliency considerations into effective utility management practices.

FY 2017 Activities and Performance Plan:

Since the events of 9/11, the EPA has been designated as the sector-specific agency responsible for protecting the critical infrastructure of the nation's drinking water and wastewater systems. The EPA is utilizing its position within the water sector and working with its stakeholders to provide information to reduce the risks to water systems from all-hazard events such as terrorism and extreme weather events. Specifically, the EPA is responsible for assessing new security technologies to detect and monitor contaminants as part of the Water Security Initiative (WSI), establishing a national water laboratory alliance, and enhancing the preparedness and resiliency of water systems through exercises and technical assistance.

In FY 2017, the EPA will continue to provide its national training program to support water systems in the design and deployment of a Water Quality Surveillance and Response System

¹³ Please see <http://www.epa.gov/waterresilience>.

(SRS). Deployment of a Water Quality Surveillance and Response System allows a water utility to rapidly detect and respond to water quality problems such as contamination in the distribution system in order to reduce public health and economic consequences. In FY 2017, the EPA's water contamination detection efforts will focus on providing outreach and training across the nation, exploring a possible SRS certification program for water systems, and providing technical assistance to water utilities engaged in designing and deploying SRS systems. The EPA also will continue to support the Water Alliance for Threat Reduction program to protect the nation's critical water infrastructure and oversee the Water Laboratory Alliance, which enables the water sector to rapidly analyze a surge of laboratory samples during a significant contamination event.

In FY 2017, the EPA will continue to fulfill its obligations under Executive Order (EO) 13636 – *Improving Critical Infrastructure Cybersecurity* – which designates the EPA as the lead agency responsible for cybersecurity in the water sector. The EPA also will continue to partner with the water sector to promote cybersecurity practices and gauge progress in the sector's implementation of these practices as directed by the Cybersecurity Enhancement Act of 2014. Any interruption of a clean and safe water supply would erode public confidence and could produce significant public health and economic consequences.

In FY 2017, the EPA will continue working to ensure that water sector utilities have access to tools and information to prevent, detect, respond to, and recover from all hazards including terrorist attacks and extreme weather events by promoting drinking water, wastewater, and stormwater system preparedness through the Climate Ready Water Utilities (CRWU) initiative. The mission of the CRWU initiative is to assist water sector utility owners and operators in integrating climate change and extreme weather considerations into their routine planning practices, through the provision of innovative but readily accessible electronic tools that enable water systems to identify changes in operations and equipment that will help the utility adapt to the impacts from climate change and extreme weather events, thereby enhancing their resiliency. The agency will promote the use of version 3.0 of its Climate Resilience Evaluation and Awareness Tool (CREAT) that incorporates sea-level rise and storm surge components via GIS, allows for mapping of assets, and leverages conventional asset management practices. The EPA will continue to provide extensive nationwide training sessions with at least 200 water and wastewater systems as well as a series of train-the-trainer forums for technical assistance providers in an effort to reach smaller utilities, with a significant focus in FY 2017 on improving the resilience of the water sector to the impacts of drought. The EPA also will conduct approximately 20 pilot projects at large, medium, and small drinking water and wastewater utilities across the country to cultivate a peer-to-peer network whereby these utilities can share experiences in using CREAT and other CRWU tools. Sharing experiences within the sector can serve as an effective incentive for promoting the broader acceptance of integrating climate considerations into routine planning practices.

In FY 2017, the EPA will continue to target both the pilots and training sessions on those areas in the U.S. most at risk from the impacts of climate change and extreme events by focusing on drought in the west and southwest, and storm surge and hurricanes along the Gulf. The EPA will evaluate the feedback from these training sessions, in addition to the latest scientific assessments of climate change, to make any necessary upgrades to CREAT. For instance, in FY 2016, the EPA will add a storm surge and hurricane strike frequency module to CREAT which will enable water systems to more accurately account for such threats. In FY 2017, the EPA will evaluate whether

enhancing the data for additional threats, such as wildfires and ice storms, would improve the risk assessment process.

The EPA will continue to work with its stakeholders to promote the use and adoption of effective, implementable, and sustainable climate adaptation practices in the water sector. With this tool and the EPA's support, utilities will have access to additional information in order to better fulfill their public health and environmental missions despite unprecedented climatic impacts. Climate change and extreme weather events, in the absence of adequate planning, directly threaten water systems' ability to fulfill their public health and environmental missions as evident from the devastation resulting from Superstorm Sandy. The CRWUs initiative also will advance the long-term sustainability of water sector infrastructure and supplies by encouraging incorporation of climate change and resiliency considerations into effective utility management practices.

Water Security Initiative and Water Laboratory Alliance

The EPA's goal is to develop a "robust, comprehensive, and fully-coordinated surveillance and monitoring system"¹⁴ for drinking water and a water laboratory network that can support water surveillance and emergency response activities. The objective of the Water Security Initiative is to design and demonstrate an effective system for timely detection and appropriate response to drinking water contamination threats and incidents through a pilot program that has broad application to the nation's drinking water utilities in high-threat cities.

Under the Water Security Initiative, the EPA developed the design for a Water Quality SRS, which consists of five general components: (1) enhanced physical security monitoring; (2) online water quality monitoring; (3) routine and triggered sampling for high priority contaminants; (4) public health surveillance; and (5) consumer complaint surveillance. Peer reviewed simulation analyses underscore the importance of integrating all five surveillance components for contamination events, as different contaminants are detected by different sequences of triggers or "alarms." The EPA funded five full-scale pilots in major metropolitan areas to deploy and evaluate Water Quality SRS under the Water Security Initiative.

With the conclusion of these pilots, the EPA conducted a meta-analysis of the data to assess the efficacy and dual use benefits from operating a Water Quality SRS. The EPA supplemented these actual performance data with data based on modeled simulations of contamination events at the pilot utilities. The FY 2017 request includes \$4.8 million for necessary Water Security Initiative SRS activities to refine technical assistance products based on the five SRS pilots, implement a certification program for water utilities interested in receiving recognition for adopting contamination warning systems, and provide technical assistance to the dozens of water utilities that seek to leverage the EPA's expertise in deploying their own warning system.

Funding in FY 2017 will enable the EPA to continue to provide national outreach and training necessary to promote the adoption of Water Quality SRS by drinking water utilities across the country. This phase of the Water Security Initiative is absolutely critical as the success of this initiative ultimately hinges on whether water systems begin to implement the guidance materials. The EPA will target initial training to water systems serving large populations or serving customers

¹⁴ Homeland Security Presidential Directive 9 (HSPD-9)

with either regional or national security significance. In FY 2017, the EPA will continue to focus on larger water utilities, while beginning to engage small water systems in an effort to cultivate a program that will resonate with utilities operating with far more modest resources and capabilities than larger utilities. Therefore, in FY 2017, the EPA will partner with water associations and utilities to develop and implement an outreach and marketing plan which will result in greater awareness and adoption of contamination warning systems among the smaller systems. In addition, the EPA will continue to seek out and evaluate opportunities to enhance the design of Water Quality SRS to improve their cost-effectiveness and suitability for implementation by water systems. For example, the EPA has developed techniques for locating online water quality monitors in distribution systems and for establishing alarm parameters for those monitors that do not require the use of advanced algorithms and complex models. Such techniques represent a critical design advance as they dramatically reduce the cost while improving the feasibility of deploying and operating a Water Quality SRS. Further, the EPA has developed an online technology clearing-house to assist water systems in selecting the most appropriate water quality monitoring technology for their specific needs. These approaches and tools are making Water Quality SRS more affordable and accessible to water systems of all sizes. In FY 2017, the EPA is requesting \$1.1 million to provide water systems with the tools and information necessary to prevent, detect, and respond to attacks under the Water Alliance for Threat Reduction program.

In a contamination event, the sheer volume or unconventional type of samples could quickly overwhelm the capacity or capability of a single laboratory. To address this potential deficiency, the EPA has established a national Water Laboratory Alliance comprised of laboratories harnessed from the range of existing lab resources from the local (e.g., water utility) to the federal levels (e.g., the Center for Disease Control's Laboratory Response Network). The Water Laboratory Alliance focuses solely on water and provides specialized expertise to support the water component of the EPA's Environmental Response Laboratory Network, which focuses on analyses of all other environmental media. The Water Laboratory Alliance will reduce the time necessary for confirming an intentional contamination event in drinking water and speed response and decontamination efforts. Launched in 2009, the Water Laboratory Alliance is composed of a number of environmental, public health, and commercial laboratories across the nation with membership increasing steadily. In FY 2017, the EPA will continue to promote, through exercises, expert workshops, and association partnerships, the Water Laboratory Alliance Plan, which provides a protocol for coordinated laboratory response to a surge of analytical needs.

The EPA will continue work with regional and state environmental laboratories to conduct exercises and continue efforts to automate the exercises enabling laboratories and other members of the water sector to participate in exercises simultaneously and continue the innovative practice of pursuing validation of methods through exercises. The agency also will expand the membership of the Water Laboratory Alliance with the intention of achieving nationwide coverage. The Water Laboratory Alliance has 140 member laboratories that are geographically diverse and can provide a wide range of chemical, biological, and radiological analyses. In order for the Water Laboratory Alliance to become a robust infrastructure that can cover major population centers and address a diverse array of high priority contaminants, membership must continue to increase. The agency will continue to target laboratories located in areas where the Water Laboratory Alliance has both inadequate membership levels and gaps in laboratory analytical capabilities. In FY 2017, the EPA will continue to expand the membership of the laboratory network by reaching out to laboratories

at water systems that do not meet the capability criteria for membership in the broader Environmental Response Laboratory network. This phase will increase the membership of the lab alliance and bring water utility labs into the fold of the network. This enables access to a wide range of chemical, biological, and radiological analyses, which will serve both homeland security and public health purposes.

Water Sector-Specific Agency Responsibilities

The EPA is the sector-specific agency “responsible for infrastructure protection activities”¹⁵ for the water sector (drinking water and wastewater utilities). The EPA is responsible for developing and providing tools and training on improving security and resiliency to the 53,000 community water systems and 16,000 publicly-owned treatment works. The EPA’s role as the federal lead for enhancing the preparedness and resiliency of the water sector against all hazards was reaffirmed through Presidential Decision Directive 21 (February 2013).

Under Executive Order 13636: Improving Critical Infrastructure Cybersecurity, the EPA, in FY 2017, will continue to coordinate water sector specific cybersecurity risks with DHS and the sector, and conduct outreach and training to the sector. In FY 2014, the EPA convened the Cybersecurity Strategy Workgroup, under the Critical Infrastructure Partnership Advisory Council, to identify and rank critical gaps for the water sector with respect to tools, training, and other technical assistance that could assist the sector in adopting the National Institute of Standards and Technology Cybersecurity Framework. In FY 2015 and FY 2016, the EPA began to address the highest priority gaps identified by the Cybersecurity Workgroup focusing on training sessions to support the sector’s understanding and adoption of the Cybersecurity Framework. In FY 2016, the water sector is in the process of developing metrics and administering a survey to assess the sector’s awareness of cybersecurity practices. The associations representing the sector will administer the survey and the results may inform the EPA’s cybersecurity tools, training, and outreach.

In FY 2017, the EPA will provide in-person and webinar-based training to the water sector on available risk assessment and management tools for cybersecurity. At the recommendation of the Cybersecurity Strategy Workgroup, the EPA will continue to develop products in FY 2017 which can bridge non-specific cybersecurity guidance to the water sector-specific user. The EPA, pursuant to the Workgroup’s guidance, also needs to develop products that speak to both the high capacity utility—those well equipped to implement cybersecurity practices—and the low capacity utility—those who still need to reach a basic level of understanding of cybersecurity threats and practices. The latter comprises the majority of the water sector, and therefore, in FY 2017, the EPA will continue to develop products commensurate with both levels of capacity. In FY 2017, certain water sector associations will share aggregated data with the EPA from its nationwide cybersecurity survey which may provide insight into the sector’s awareness of cybersecurity practices. The EPA will coordinate with the sector in analyzing these assessment data for the purpose of guiding future outreach and communication efforts. The EPA also will assess, on the basis of the survey and its results, whether changes or updates are required in the regulatory framework to support cybersecurity and resiliency practices.

¹⁵ Homeland Security Presidential Directive 7 - Critical Infrastructure Identification, Prioritization, and Protection. December 17, 2003. Please see <http://www.dhs.gov/homeland-security-presidential-directive-7>.

The following preventive and preparedness activities will be implemented for the water sector in collaboration with the DHS and states' homeland security and water sector officials:

- Conduct webcasts to prepare utilities, emergency responders, and decision-makers to evaluate and respond to physical, cyber, and contamination threats and events;
- Disseminate tools and provide technical assistance to ensure that water and wastewater utilities and emergency responders react rapidly and effectively to intentional contamination and natural disasters. Tools include: information on high priority contaminants, incident command protocols, sampling and detection protocols and methods, and treatment options;
- Sustain operation of the Water Desk in the agency's Emergency Operations Center in the event of an emergency by updating roles/responsibilities, training staff in the incident command structure, ensuring adequate staffing during activation of the desk, and coordinating with the EPA's regional field personnel and response partners;
- Support the adoption and effectiveness of mutual aid agreements among utilities to improve recovery times;
- Complete development of an electronic tool that consolidates all of the preparedness and resiliency products that the EPA has released over the last decade into one comprehensive, coherent, and compelling framework, and conduct training and outreach on this tool for water systems and state officials;
- Continue to implement specific recommendations for emergency response, as developed by the EPA and water sector stakeholders, including providing an expanded set of tools (e.g., best security practices, incident command system and mutual aid training, recovery, and resiliency) in order to keep the water sector current with evolving water security priorities;
- Coordinate with other federal agencies, primarily DHS, Centers for Disease Control, Food and Drug Administration, and Department of Defense, on biological, chemical, and radiological contaminants of high concern, and how to detect and respond to their presence in drinking water and wastewater systems;
- Continue to implement specific recommendations of the Water Decontamination Strategy as developed by the EPA and water sector stakeholders (e.g., defining roles and responsibilities of local, state, and federal agencies during an event); and
- Develop annual assessments, as required under the National Infrastructure Protection Plan, to describe existing water security efforts and progress in achieving the sector's key metrics.

Performance Targets:

Work under this program supports the strategic objective Protect Human Health. Currently, there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$163.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs for existing FTE due to adjustments in salary, essential workforce support, and benefit costs.

- (+\$224.0) This program change provides additional support for cybersecurity activities within the water infrastructure sector pursuant to Executive Order 13636.

Statutory Authority:

Safe Drinking Water Act (SDWA), §§ 1431-1435; Clean Water Act; Public Health Security and Bioterrorism Emergency and Response Act of 2002; Emergency Planning and Community Right-to-Know Act (EPCRA), §§ 301-305.

Homeland Security: Preparedness, Response, and Recovery

Program Area: Homeland Security

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Minimize Exposure to Radiation

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Science & Technology</i>	<i>\$27,005.7</i>	<i>\$26,054.0</i>	<i>\$25,696.0</i>	<i>(\$358.0)</i>
Hazardous Substance Superfund	\$39,405.1	\$35,276.0	\$31,503.0	(\$3,773.0)
Total Budget Authority / Obligations	\$66,410.8	\$61,330.0	\$57,199.0	(\$4,131.0)
Total Workyears	128.1	127.4	130.0	2.6

Program Project Description:

Exposure to hazardous chemicals, microbial pathogens, and radiological materials purposely released into the environment by terrorists or unintentionally as a result of industrial accidents or natural disasters can be harmful to humans. Our communities and country can recover more quickly and cost effectively from these events if effective tools, methods, information, and guidance are developed and successfully delivered to local, state, and federal decision-makers. The EPA’s Homeland Security Research Program (HSRP) enhances the nation’s preparedness, response, and recovery capabilities for large-scale catastrophic incidents by filling critical gaps associated with the EPA’s homeland security responsibilities. Over the years, the research program has developed many products that address critical terrorism-related issues while having resilience applicability to other natural and manmade disasters. Recent examples of critical support provided by HSRP’s emergency response experts include: (1) the Deepwater Horizon Oil Spill cleanup, (2) the *Fukushima* Daiichi nuclear reactor meltdown recovery, and (3) clean up/treatment of wastes associated with the Ebola response.

HSRP collaborates with other federal agencies including the Department of Homeland Security (DHS), Department of Defense (DoD), Centers for Disease Control and Prevention (CDC), and the Federal Bureau of Investigation (FBI), on key research areas of mutual interest. By planning research based on the needs of partners and stakeholders (the EPA’s Homeland Security Program, Water programs, Land and Emergency Management programs, and the regions) and using a cradle-to-grave approach, HSRP efficiently and effectively delivers timely products to its internal partners and the aforementioned federal stakeholders while simultaneously preventing duplication of scientific and technical work conducted by other agencies.

Recent accomplishments include:

- **Supporting the EPA’s Mission in Response to the Ebola Crisis** - EPA translated its research results on anthrax spores and other biological threat agents into use during the

domestic Ebola crisis of 2014-2015. EPA researchers worked closely with others in EPA and CDC to provide recommended disinfectants for use in hospitals and elsewhere and guidance on managing wastewater. At the request of the White House National Security Council Staff, EPA research staff participated in a workgroup tasked with addressing Ebola-related waste management and disposal issues. At a workshop held at the White House, EPA researchers provided scientific information aimed at bringing a broad understanding of the science behind viral waste management to federal agencies and the waste management industry.

- **Supporting the EPA’s Response to the Gold King Mine Incident** - Staff were engaged in a number of technical and scientific tasks in support of the Regions during the release. EPA provided experts assisted with: developing recreational screening levels; sampling and analysis plan reviews; Regional watershed monitoring plan; and reviewing and assessing the water quality and sediment analyses before public release. EPA researchers also conducted a few anticipatory, self-directed actions including: fate and transport modeling; groundwater hydrology assessment along the San Juan River; and an assessment of in-house laboratory analytical capacity.
- **Advancing in Wide Area Decontamination for Biological Agents** – Homeland Security Research at EPA has improved the capabilities of the EPA and communities to carry out cleanup after a wide area biological agent incident. Specifically, research has provided information on the effectiveness of widely available and easy to implement decontamination methods for indoor environments (e.g., sporicidal wipes) and pest control technologies for outdoor environments (e.g., soil or structural fumigants). In addition, HSRP has reviewed the persistence of the highest priority biological agents on a range of environmental matrices and urban materials to inform cleanup decision-making.
- **Increasing the EPA’s Sampling and Analysis Capability and Capacity** – The availability of information on contamination locations and amounts following a wide area contamination incident are limited by the rates of sampling and analysis. The EPA’s HSRP has improved the nation’s characterization capabilities by: (1) developing novel approaches to composite sampling using robotic samplers and modifications to existing sponge stick samplers and (2) improving the rates of analysis by developing more rapid throughput methods for radiological agents and for chemical warfare agents including Lewisite.
- **Improving Drinking Water Utilities’ Response to System Contamination** – Water system contamination can greatly impact communities, potentially resulting in consequences ranging from “do not drink” to evacuation orders. Returning a system to service quickly is critical to the well-being of the community, therefore necessitating effective methods for system decontamination after a bio-contamination incident. EPA’s HSRP developed and assessed methods to clean up water contaminated infrastructure in controlled, pilot scale and in a full-scale system. Research products provide EPA and water utilities with information on the effectiveness of traditional infrastructure decontamination methods as well as ways to improve efficacy.

FY 2017 Activities and Performance Plan:

In accordance with Presidential Policy Directive-8, HSRP is pursuing an all-hazards approach in conducting its work in order to provide the tools and capabilities necessary to prepare the nation for disasters of all types. Building resiliency in the nation's communities requires that they be prepared to respond to disasters that are terrorism-based, accidental, or naturally occurring. HSRP, by utilizing input from the relevant EPA Program Offices and Regional Offices, is focusing on reacting to terrorism-related issues to better provide products with multiple benefits that are applicable to a broader set of disasters. HSRP prioritizes its research based upon: Agency strategic directions as outlined in the EPA Strategic Plan, lessons learned from EPA response activities, the high priority needs expressed by its research end-users (e.g., Regional On-Scene Coordinators, water utilities), and input from external review boards (e.g., the Board of Scientific Counselors (BOSC) and the Science Advisory Board (SAB)). Interagency groups (e.g., Office of Science and Technology Policy (OSTP) subcommittees and workgroups) and other federal agency efforts inform priorities as well. New agency responsibilities also were recently outlined in Executive Order (EO) 13636: "*Improving Critical Infrastructure Cybersecurity*" and Presidential Policy Directive (PPD)-21: "*Critical Infrastructure Security and Resilience*," and the HSRP is determining the most cost-effective way to address the new needs resulting from these additional responsibilities.

Decontamination Research

As outlined in the Homeland Security Presidential Directives (HSPDs)-7,-9,-10, and 22¹⁶ as well as the National Response Framework (NRF), the EPA is tasked with remediating contaminated environments due to either terrorist attacks or inadvertent disasters and with developing a nationwide laboratory network with the capability and capacity to analyze for Chemical, Biological, and Radiological (CBR) agents during routine monitoring and in response to terrorist attacks and other disasters.

In FY 2017, decontamination research will continue to address existing scientific knowledge gaps in responding to and recovering from wide-area CBR attacks on urban centers and public areas. Sampling and analytical methods will be developed by the HSRP and compiled in their widely-accepted and regularly-updated Selected Analytical Methods for Environmental Remediation and Recovery (SAM)¹⁷ in support of post-incident decisions regarding exposure assessment, remediation, and re-occupancy. In addition, sample strategy options will be studied to support characterization pre and post-decontamination.

The EPA's "systems" view of cleanup and the resultant products help decision-makers:

- determine holistic clean-up approaches,
- develop solutions that optimize cleanup efficacy, and
- minimize cost and recovery time as well as unintended consequences.

¹⁶ HSPD-7: Homeland Security Presidential Directive 7: Critical Infrastructure Identification, Prioritization, and Protection, HSPD-9: Defense of U.S. Agriculture and Food, HSPD-10: Biodefense for the 21st Century, HSPD-22: Domestic Chemical Defense.

¹⁷Please see <http://www.epa.gov/nhsrc/aboutconrisk.html#samana> for additional information.

This allows the consideration of how a choice in clean-up method might impact the amount and character of the resulting waste stream.

Decontamination research also will focus on developing methods and strategies for remediation after a wide area contamination event, particularly for *B. anthracis* and radiological contamination. This will include testing widely available cleanup technologies, developing methodologies for decontamination of outdoor areas, developing strategies for scaling up effective technologies for wide-area use, and developing scalable approaches to manage the contaminated waste.

Water Infrastructure Protection Research

The Water Infrastructure Protection Research Program is directly responsive to the water sector specific needs of the agency. Specifically, the HSRP is conducting research directly related to needs identified by the Water Sector Coordinating Council and the Water Government Coordinating Council's¹⁸ Critical Infrastructure Partnership Advisory Council, organized by the DHS. The White House priority, outlined in PPD-21 and EO-13636, will result in new EPA research efforts to support best practices for cybersecurity in the water sector.

In FY 2017, high priority needs that the HSRP will focus on include:

- Development of a water distribution system modeling tool that supports system-specific evaluation of various resilience measures for a wide range of hazards; and
- Development of methods to decontaminate water system infrastructure and treat water, including decontamination of wash water.

Accordingly, research on real time distribution system models and methods to isolate and treat contaminated water, clean distribution systems, redirect water, and return water systems to service quickly and affordably is in progress. The EPA also will investigate the chemical, biological, and physical aspects of decontamination processes to design and optimize the cleanup process for removal or mitigation of CBR contamination in wastewater (including decontamination wash water).

To support all of the water research efforts outlined above, the HSRP also will conduct field-scale evaluations of water contamination sensors, decontamination methodologies, and the tools that support response actions.

Radiation Monitoring

Maintenance of the RadNet air monitoring network supports EPA's responsibilities under the Nuclear/Radiological Incident Annex to the National Response Framework (NRF). The network includes near real-time stationary monitors and deployable monitors. This network is identified as an EPA Critical Infrastructure/Key Resource (CI/KR) asset.

¹⁸ The Water Sector Coordinating Council is a "self-organized, self-run, and self-governed council" composed of water utilities. This council facilitates the development of policy impacting the water sector. The Water Government Coordinating Council was formed as the federal government counterpart to the Water Sector Coordinating Council and is responsible for interagency coordination of efforts related to the water sector.

The RadNet fixed monitoring network provides near real-time radiation monitoring coverage near each of the 100 most populous U.S. cities, as well as expanded geographic coverage for a total of 135 monitoring sites. In FY 2017, the agency will operate and maintain the RadNet air monitoring network. Fixed stations will operate routinely and, should there be an emergency, in conjunction with as many as 40 deployable monitors following a radiological incident. The RadNet air monitoring network will provide the agency, first responders, and the public with greater access to data, improving officials' ability to make decisions about protecting public health and the environment during and after an incident. The EPA will continue to maintain its fixed and deployable monitoring systems, including their communications capability, across various media. Additionally, the data will be used by scientists to better characterize the effect of a radiological incident.

Performance Targets:

Measure	(HS1) Percentage of planned research products completed on time by the Homeland Security research program.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			100	100	100	100	100	100	Percent
Actual			100	100	100	100			

Measure	(HS2) Percentage of planned research outputs delivered to clients and partners to improve their capabilities to respond to contamination resulting from homeland security events and related disasters.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			100	100	100	100	100	100	Percent
Actual			78	100	100	100			

The tables reflect the HSRP's annual performance measures. The EPA uses these measures to assess our effectiveness in delivering needed products and outputs to clients (decision-makers, states, and local governments).

EPA has established a standing subcommittee under the EPA's BOSC for the HSRP program to evaluate its performance and provide expert feedback to the Agency. The HSRP will meet regularly with both the BOSC and SAB over the next several years to seek their input on topics related to research program design, science quality, innovation, relevance and impact, within the context of the Agency's Strategic Plan. This includes advising the EPA on its strategic research direction with the review of EPA's recently released Research and Development Program's Strategic Research Action Plans (StRAPs).¹⁹

The EPA collaborates with several science agencies and the research community to assess our research performance. For example, the EPA is currently partnering with the National Institutes of Health, National Science Foundation, Department of Energy, and Department of Agriculture. The EPA also works with the White House's OSTP and supports the interagency Science and

¹⁹ EPA Strategic Research Action Plans, <http://www.epa.gov/research/strategic-research-action-plans-2016-2019>

Technology in America's Reinvestment—Measuring the Effect of Research on Innovation, Competitiveness, and Science (STAR METRICS) effort.²⁰

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$1,089.0 / +0.6 FTE) This change reflects an increase of \$839.0 to fixed and other costs for the agency recalculation of base workforce costs due to adjustments in salary, working capital fund, and benefits and a net increase of \$250.0 and 0.6 FTE for essential research program support.
- (-\$1,542.0 / +2.0 FTE) This net program change reflects a decrease to water security tool and process indicator development that supports response to and sampling analysis of water system contaminations and chemical threats; exposure pathways for biological agents; and efficacy determinations for radiological decontamination technologies. The increase in FTE will aid the agency in meeting new agency responsibilities related to water cybersecurity while improving the EPA's capability to provide technical advice and research translation in support of agency emergency responses.
- (+\$95.0) This program change reflects a minimal increase to support the RadNet air monitoring network.

Statutory Authority:

Atomic Energy Act of 1954; Clean Air Act, §§ 102, 103; Comprehensive Environmental Response Compensation and Liability Act (CERCLA), §§ 104-106; Safe Drinking Water Act (SDWA), §§ 1431-1435, 1442; Robert T. Stafford Disaster Relief and Emergency Assistance Act; National Defense Authorization Act for Fiscal Year 1997, §§ 1411-1412; Public Health Security and Bioterrorism Preparedness Response Act of 2002; Toxic Substances Control Act (TSCA), § 10; Oil Pollution Act (OPA); Pollution Prevention Act (PPA); Resource Conservation and Recovery Act (RCRA); Emergency Planning and Community Right-to-Know Act (EPCRA); Clean Water Act; Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Federal Food, Drug, and Cosmetic Act (FFDCA); Food Quality Protection Act (FQPA); Food Safety Modernization Act (FSMA), §§ 203, 208.

²⁰ STAR Metrics, <https://www.starmetrics.nih.gov/>

Homeland Security: Protection of EPA Personnel and Infrastructure

Program Area: Homeland Security

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$5,610.7	\$5,346.0	\$6,392.0	\$1,046.0
<i>Science & Technology</i>	<i>\$541.0</i>	<i>\$552.0</i>	<i>\$605.0</i>	<i>\$53.0</i>
Building and Facilities	\$7,957.7	\$6,676.0	\$7,875.0	\$1,199.0
Hazardous Substance Superfund	\$1,351.7	\$1,086.0	\$1,113.0	\$27.0
Total Budget Authority / Obligations	\$15,461.1	\$13,660.0	\$15,985.0	\$2,325.0
Total Workyears	3.1	12.2	12.2	0.0

Program Project Description:

This program supports activities to ensure that the EPA's physical structures and assets are secure and operational and that certain physical security measures are in place to help safeguard staff in the event of an emergency. These efforts also protect the capability of the EPA's vital laboratory infrastructure assets. Specifically, funds within this appropriation support security needs for the National Vehicle and Fuel Emissions Laboratory (NVFEL).

FY 2017 Activities and Performance Plan:

In FY 2017, the agency will continue to provide enhanced physical security for the NVFEL and its employees. This funding supports the incremental cost of security enhancements required as part of an agency security assessment review.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently, there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$54.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs for existing FTE due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$1.0) This program change reflects a minor reduction to the lab security budget.

Statutory Authority:

Intelligence Reform and Terrorism Prevention Act of 2004; Homeland Security Act of 2002; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA’s organic statute).

Program Area: IT / Data Management / Security

IT / Data Management

Program Area: IT / Data Management / Security

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$82,204.2	\$83,950.0	\$105,836.0	\$21,886.0
<i>Science & Technology</i>	<i>\$3,171.0</i>	<i>\$3,089.0</i>	<i>\$3,092.0</i>	<i>\$3.0</i>
Hazardous Substance Superfund	\$13,865.7	\$13,802.0	\$15,437.0	\$1,635.0
Total Budget Authority / Obligations	\$99,240.9	\$100,841.0	\$124,365.0	\$23,524.0
Total Workyears	440.0	478.8	478.8	0.0

Program Project Description:

The EPA's Information Technology/Data Management (IT/DM) program promotes the use of quality environmental information for informing decisions, improving management, documenting performance, and measuring success, which supports the agency's mission to protect public health and the environment. Science and Technology (S&T) resources for the EPA's IT/DM program fund the following activities: Quality Program,²¹ EPA libraries, and One EPA Web.

The Quality Program ensures that all environmentally-related data activities performed by or for the agency will result in the production of data that is of adequate quality to support specific decisions or actions. In order for this data to be used with a high degree of certainty by its intended users, its quality must be known and documented. The Quality Program ensures that appropriate resources are made available and proper procedures, including statistical analysis, are followed throughout each phase of environmental projects: planning, implementation and evaluation phases. Specifically, the Quality Program provides Quality Assurance (QA) policies, training, oversight and technical support to assist the EPA's programs in the implementation of their quality management systems which are required by the EPA Quality Policy CIO 2105.0 for all environmental data operations. The Quality Program also oversees the implementation of the EPA Information Quality Guidelines.

FY 2017 Activities and Performance Plan:

In FY 2017, the agency will continue to maintain the EPA's libraries and the One EPA Web, which supports hosting for all agency websites and Web pages. The agency also will continue to support development and use of high quality environmental decision-making data, ensuring that the data

²¹ More information about the EPA Quality Program can be found at <http://www.epa.gov/quality>.

is documented, defensible, and of appropriate quality for its intended use. The agency has already identified and addressed process improvements in data development such as such as streamlining EPA QA intranet pages, and integrating the QA Review Form for contracts that involve environmental information into the EPA's acquisition system. The program will revise, as necessary, the EPA's Quality Procedures to reflect the current scope of environmental data operations. The program will provide technical support to all of the EPA's programs and laboratories for the implementation of the EPA Quality Policies, Procedures and Standards. The Quality Program also will continue to develop QA training courses such as mandatory QA training in the agency's online training portal for all employees, a QA training for managers and staff, and a QA in contracts training.

In FY 2017, the Quality Program will complete at least ten Quality Management Plan reviews and conduct at least four Quality System Assessments of the agency's programs. In addition, the program will continue to provide technical support to the EPA's organizations conducting internal audits of their conformance with the Field Operations Group Guidelines. These oversight activities ensure the data used to support environmental decision-making is appropriate for its intended use and enhances the reliability of the data. Additionally, the Quality Program will provide oversight of the EPA's Information Quality Guidelines and facilitate the development of agency responses to the public's request for correction of the agency's disseminated information.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$199.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$196.0) This program change reflects a reduction in technical support for conducting quality assurance.

Statutory Authority:

Federal Information Security Management Act (FISMA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Clean Air Act (CAA); Clean Water Act (CWA); Toxic Substances Control Act (TSCA); Federal Insecticide Fungicide and Rodenticide Act (FIFRA); Food Quality Protection Act (FQPA); Safe Drinking Water Act (SDWA); Resource Conservation and Recovery Act (RCRA); Government Performance and Results Act (GPRA); Government Management Reform Act (GMRA); Clinger-Cohen Act (CCA); Paperwork Reduction Act (PRA); Freedom of Information Act (FOIA); Controlled Substances Act (CSA)

Program Area: Operations and Administration

Facilities Infrastructure and Operations
Program Area: Operations and Administration

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Inland Oil Spill Programs	\$498.0	\$584.0	\$1,763.0	\$1,179.0
Science & Technology	\$67,222.2	\$68,339.0	\$78,447.0	\$10,108.0
Environmental Program & Management	\$313,026.1	\$311,540.0	\$329,281.0	\$17,741.0
Leaking Underground Storage Tanks	\$757.9	\$783.0	\$1,101.0	\$318.0
Building and Facilities	\$33,326.3	\$35,641.0	\$44,203.0	\$8,562.0
Hazardous Substance Superfund	\$77,680.0	\$74,278.0	\$70,960.0	(\$3,318.0)
Total Budget Authority / Obligations	\$492,510.5	\$491,165.0	\$525,755.0	\$34,590.0
Total Workyears	327.1	350.2	349.9	-0.3

Program Project Description:

Science & Technology (S&T) resources in the Facilities Infrastructure and Operations program fund rent, utilities, and security. This program also supports centralized administrative activities and support services, including health and safety, environmental compliance and management, facilities maintenance and operations, energy conservation, sustainable buildings programs, and space planning. Funding is allocated for such services among the major appropriations for the agency.

FY 2017 Activities and Performance Plan:

As part of the EPA's efforts toward continuing to improve as a High Performing Organization (HPO), the agency reviews space needs and is implementing a long-term space consolidation plan that will reduce the number of occupied facilities, consolidate space within the remaining facilities, and reduce the square footage wherever practical. In FY 2017, the EPA will continue to invest to reconfigure the EPA's workspaces with the goal of reducing long-term rent costs. This work will enable the agency to release office space and reduce costs as well as support the President's June 2010 memorandum on "Disposing of Unneeded Federal Real Estate." Since FY 2012 the EPA released over 250 thousand square feet of office space nationwide, resulting in a cumulative annual rent avoidance of nearly \$9.2 million across all appropriations. These savings help offset the EPA's escalating rent and security costs.

Consolidations and moves also are planned for Potomac Yard North at Headquarters and Regional Offices that will allow the EPA to release another estimated 336 thousand square feet of office

space. For FY 2017, the agency is requesting \$34.8 million for rent, \$20.1 million for utilities, and \$15.3 million for security in the S&T appropriation.

In FY 2017, the EPA will continue to improve operating efficiency and encourage the use of advanced technologies and energy sources to meet the goals of Executive Order (EO) 13693,²² *Planning for Federal Sustainability in the Next Decade*. The agency will attain the EO's environmental performance goals related to buildings through several initiatives, including: environmental management systems; comprehensive facility energy audits; re-commissioning; and sustainable building design.

EO 13693, *Planning for Federal Sustainability in the Next Decade*, consolidates and revokes numerous previous environmental Executive Orders and Presidential Memoranda and requires additional reductions to greenhouse gas (GHG) emissions. To meet the requirements of EO 13693 the EPA will manage existing building systems to reduce consumption of energy, water, and materials, consolidate and dispose of existing facilities, and optimize real property and portfolio performance. In FY 2017, the agency is targeting to reduce energy utilization (or improve energy efficiency) by approximately 45 billion British Thermal Units or five percent below FY 2015 energy utilization levels. This ongoing effort to become more efficient has yielded impressive results - approximately 32.7 percent less energy used in FY 2015 than in FY 2003, and annual cost savings of \$5.9 million agencywide. Similarly, the EPA has had remarkable success in reducing Scope 1 and 2 greenhouse gas emissions. As of FY 2015, the EPA reduced its Scope 1 and 2 greenhouse gas emissions 63.0 percent lower than emissions in FY 2008. Incremental improvements become more challenging as projects become more complex and resource intensive.

Performance Targets:

Work under this program supports performance results in the Facilities Infrastructure and Operations program under the EPM appropriation. These measures can also be found in the Eight-Year Performance Array in the Program Performance and Assessment Section. Information on the agency's energy/GHG reduction initiative can be found in the agency's Strategic Sustainability Performance Plan.²³

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$323.0) This change to fixed and other costs is an increase due to the recalculation of transit subsidy.
- (+\$7,724.0) This net change to fixed and other costs is due to the recalculation of rent, utility and security (RUS) needs driven largely by a rebounding commercial real estate market.
- (+\$2,061.0) This program change reflects an increase to support facility operations to meet basic needs and to fund cost escalation for contracts that support activities like health and

²² For additional information, refer to: <https://www.fedcenter.gov/programs/eo13693/>, *planning for Federal Sustainability in the Next Decade*.

²³ For additional information, refer to: <http://www.epa.gov/greeningepa/epa-strategic-sustainability-plans>.

safety, custodial, landscaping, and warehouse activities at the EPA's research and development facilities and laboratories.

Statutory Authority:

Federal Property and Administration Services Act; Public Building Act; Robert T. Stafford Disaster Relief and Emergency Assistance Act; Clean Water Act; Clean Air Act; Resource Conservation and Recovery Act (RCRA); Toxic Substances Control Act (TSCA); National Environmental Policy Act (NEPA); Community Environmental Response Facilitation Act (CERFA); Energy Policy Act of 2005; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Program Area: Pesticides Licensing

Pesticides: Protect Human Health from Pesticide Risk

Program Area: Pesticides Licensing

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$55,204.4	\$57,809.0	\$60,372.0	\$2,563.0
<i>Science & Technology</i>	<i>\$2,880.9</i>	<i>\$3,128.0</i>	<i>\$2,887.0</i>	<i>(\$241.0)</i>
Total Budget Authority / Obligations	\$58,085.3	\$60,937.0	\$63,259.0	\$2,322.0
Total Workyears	395.8	418.7	418.7	0.0

Program Project Description:

The EPA's Pesticide Programs screens new pesticides before they reach the market and ensures that pesticides already in commerce are safe. As directed by Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Federal Food, Drug, and Cosmetic Act (FFDCA), as amended by the Food Quality Protection Act (FQPA) of 1996, as well as the Pesticide Registration Improvement Extension Act of 2012 (known as PRIA3), the EPA is responsible for registering and re-evaluating pesticides to protect consumers, pesticide users, workers who may be exposed to pesticides, children, and other sensitive populations. To make regulatory decisions and establish tolerances (maximum allowable pesticide residues on food and feed) for food use pesticides and for residential or non-occupational use, the EPA must find the pesticide safe, including cumulative and aggregate risks, and ensure extra protection for children. The agency must balance the risks and benefits of other uses.

The EPA's Chemical Safety, Pollution Prevention and Pesticide Program operates two laboratories that support the goal of protecting human health and the environment through diverse analytical testing and analytical method development and validation efforts. The laboratories also provide a variety of technical services to the EPA, other federal and state agencies, Tribal nations, and other organizations.

EPA's Microbiology Laboratory

The Microbiology Laboratory develops and standardizes product efficacy test methodology for public health pesticides (i.e., antimicrobial pesticides) and generates data to support programmatic decision-making. Antimicrobial pesticides are an essential tool in combating human pathogenic microorganisms on environmental surfaces, including treating surfaces contaminated with new and emerging pathogens. In FY 2015, the laboratory analyzed three antimicrobial products and found deficiencies in two products.

The Microbiology Laboratory leads the federal effort on designing and standardizing ways to test important infectious agents such as *Clostridium difficile* (*C. difficile*). Deaths related to *C. difficile* (hospital-acquired infections) continue to increase due in part to a stronger germ strain, and have

now reached ~14,000 deaths per year. Almost half of the infections occur in people younger than 65, but more than 90 percent of the deaths occur in people 65 and older.²⁴ The organism has been shown to persist in the hospital environment, and disinfectants are essential to reduce disease transmission. Any new emerging human or animal pathogen (H1N1, *Clostridium difficile*, MRSA, etc.) represents a new method-development challenge for evaluating disinfectants. In FY 2015, the laboratory collected data from six laboratories under a collaborative study to determine the appropriate conditions for storage of *C. difficile* spores used for efficacy evaluation of sporicidal chemicals. The goal is to standardize the procedures to ensure consistent data from the testing community. Regulatory guidance will be updated and a data call-in notice for all current registrations for *C. difficile* will be evaluated to ensure the efficacy of the products.

The laboratory also is leading efforts to evaluate an internationally harmonized efficacy test method, the Organization for Economic Cooperation and Development (OECD) quantitative test method, as well as methods for *Pseudomonas* and *Staphylococcus* biofilms, feline calcivirus, *Mycobacterium*, and a new quantitative test method for evaluating hospital disinfectant towelette formulations. The laboratory led two collaborative studies in FY2015– the towelette method and the virus component of the OECD method. Following data analysis, methods also will be adopted or placed under review at standard-setting organizations such as the American Society for Testing and Materials or Association of Official Analytical Communities. Methods are posted at <http://www.epa.gov/pesticides/methods/atmpindex.htm>.

EPA's Analytical Chemistry Laboratory

The Analytical Chemistry Laboratory provides technical review of enforcement analytical methods and method validation and serves as a third-party confirmation laboratory. In addition, the laboratory provides analytical and technical support to various Regional Offices in enforcement cases, such as evaluating possible adverse effects of pesticide use, including contaminated, deficient, or illegally labeled products. The laboratory develops and validates multi-residue pesticide analytical methods to monitor and enforce agricultural uses of pesticides. Multi-residue methods are a quicker and more cost effective “one-stop-shop” method for multiple (100+) pesticides, based on their mode of action and chemical properties. The laboratory is leading a team of chemists from the EPA's Pesticide Programs, Food and Drug Administration, United States Department of Agriculture, and Canada's Pest Management Regulatory Agency in the update of the agency's 860.1360 Residue Chemistry Guidelines for Multi-residue Methods. The new guidelines, when approved as a replacement for the current guideline (written in 1987), also will enable the submission of multi-residue methods for use in enforcement and tolerance setting, based on more cost effective and more reliable techniques and technologies.

The Analytical Chemistry Laboratory works to standardize analytical methods to provide the agency with scientifically valid data for use in risk assessment, such as for determining the permeability of agricultural tarps to fumigants. This work assists the EPA in determining potential buffer zone credit for fumigated fields and assists crop growers with information to help determine the best tarps for their practices. The laboratory continues to support the EPA by reviewing data submitted to the agency for buffer zone credit request of newly manufactured tarps.

²⁴ http://www.cdc.gov/media/releases/2012/p0306_cdifff.html

The Analytical Chemistry Laboratory also operates the EPA National Pesticide Standard Repository (NPSR), which collects and maintains pesticide standards (samples of pure active ingredients or technical grade active ingredients for pesticides). It distributes these standards to the EPA and other federal, state, and Tribal laboratories involved in pesticide use enforcement.

FY 2017 Activities and Performance Plan:

In FY 2017, the agency will protect human health by ensuring the availability of appropriate analytical methods and techniques for analyzing pesticide residues in food, feed, water, soil, and bees (and their products) and ensuring their suitability for monitoring pesticide residues, and enforcing tolerances. The Microbiology laboratory will continue with efficacy testing of antimicrobials, including *C. difficile* claims; complete current method development activities; present data to the international community on the OECD collaborative data and determine the course of action with respect to the method; complete data analysis from the FY 2015 collaborative studies of the Quantitative Petri Plate method for towelettes; complete evaluation of a modification to the biofilm method; and initiate work on a new method for evaluating spray products. In addition, the laboratory will assist with a stakeholder meeting to present a proposal on use of a disinfectant hierarchy for establishing efficacy claims for antimicrobials. Post-registration testing of antimicrobials enables the agency to remove ineffective products from the market. New methods enable the regulated community to register new products for use against emerging pathogens.

Additionally, the EPA will: (a) continue to develop improved analytical methods using state of the art instruments to replace outdated methods, thus increasing laboratory efficiency and accuracy of the data; (b) continue to provide analytical support to fill in data gaps for the Pesticide Programs' risk assessment and for Section 18 emergency exemptions, and to perform studies for use in risk mitigation; (c) continue to provide analytical assistance and technical advice to all Regional Offices in their enforcement cases; (d) continue operation of the NPSR; (e) continue to verify that antimicrobial pesticides are properly formulated; and (f) validate, optimize, and standardize a method to determine permeability of agricultural tarps for fumigants.

Performance Targets:

Work under this program supports performance results in the Pesticides: Protect Human Health from Pesticide Risk program under the EPM appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$280.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$521.0) This program change reflects a reduction in operation and maintenance in laboratory costs for the pesticide programs due to the closure of the Environmental Chemistry Lab.

Statutory Authority:

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Federal Food, Drug, and Cosmetic Act (FFDCA), §408.

Pesticides: Protect the Environment from Pesticide Risk

Program Area: Pesticides Licensing

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$34,816.4	\$37,293.0	\$42,235.0	\$4,942.0
<i>Science & Technology</i>	<i>\$1,900.2</i>	<i>\$2,328.0</i>	<i>\$1,854.0</i>	<i>(\$474.0)</i>
Total Budget Authority / Obligations	\$36,716.6	\$39,621.0	\$44,089.0	\$4,468.0
Total Workyears	273.1	269.3	269.3	0.0

Program Project Description:

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), section 3(c) (5), states that the Administrator shall register a pesticide if it is determined that, when used in accordance with labeling and common practices, the product “will also not generally cause unreasonable adverse effects on the environment.” FIFRA defines “unreasonable adverse effects on the environment”, as “any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide.”²⁵

In compliance with FIFRA, the EPA conducts risk assessments using the latest scientific methods to determine the risks that pesticides pose to human health and ecological effects on plants, animals, and ecosystems that are not the targets of the pesticide. The agency’s significant regulatory decisions are posted for review and comment to ensure that these actions are transparent and to allow stakeholders, including at-risk populations, to be engaged in decisions that affect their environment. Under FIFRA, the EPA must determine that a pesticide also will not cause unreasonable adverse effects on the environment. The EPA must determine that food and residential uses of pesticides are safe. For other risk concerns, the EPA must balance the risks of the pesticides with benefits provided from the use of the product. To avoid unreasonable risks, the EPA may impose risk mitigation measures such as modifying use rates or application methods, restricting uses, or denying some or all uses. In some regulatory decisions, the EPA may determine that uncertainties in the risk determination need to be reduced and may require monitoring of environmental conditions, such as effects on water sources or the development and submission of additional laboratory or field study data by the pesticide registrant.

In addition to FIFRA responsibilities, the agency has responsibilities under the Endangered Species Act (ESA).²⁶ Under the ESA, the EPA must ensure that pesticide regulatory decisions will not destroy or adversely modify designated critical habitat or result in jeopardy to the continued existence of species listed by the U. S. Fish and Wildlife Service (FWS) or National Marine

²⁵ Federal Insecticide, Fungicide and Rodenticide Act. Sections 2 and 3, Definitions, Registration of Pesticides (7 U.S.C. §§ 136, 136a). Available online at <http://www.epa.gov/opp00001/regulating/laws.htm>.

²⁶ The Endangered Species Act of 1973 sections 7(a)(1) and 7 (a)(2); Federal Agency Actions and Consultations (16 U.S.C. 1536(a)). Available at U.S. Fish and Wildlife Service, Endangered Species Act of 1973 internet site: <http://www.fws.gov/endangered/laws-policies/section-7.html>

Fisheries Service (NMFS) as threatened or endangered. Where risks are identified, the EPA must work with the FWS and NMFS in a consultation process to ensure these pesticide registrations also will meet the ESA standard.

The national program laboratories of the EPA's Pesticide Programs provide a diverse range of environmental data that are used by the EPA to make informed regulatory decisions. The Analytical Chemistry Laboratory and the Microbiology Laboratory each provide critical laboratory testing and support activities to assist the decision-making processes of the agency. The laboratories develop efficacy data, and validate environmental and analytical chemistry methods to ensure that the Food and Drug Administration (FDA), the United States Department of Agriculture (USDA), the EPA, and states have reliable methods to measure and monitor pesticide residues in food and in the environment.

EPA's Microbiology Laboratory

The Microbiology Laboratory provides analyses that support the development of efficacy data for pesticides used for the decontamination of buildings (such as chlorine dioxide), supports research on methods and rapid detection assays, and evaluates commercial products used for the remediation and decontamination of sites contaminated with biothreat agents such as *Bacillus anthracis* (commonly known as anthrax). Work conducted by the laboratory led to a regulatory framework for licensing products against *Bacillus anthracis* as outlined in Pesticide Registration Notice 2008-2. Several products are now registered against this biothreat agent. The Microbiology Laboratory is the only the EPA laboratory with a Select Agent registration under the CDC's Select Agent Program, enabling the laboratory to receive, transfer, and work with *Bacillus anthracis*. The lab is assisting with the verification testing of a rapid viability Polymerase Chain Reaction (PCR) method for detection of *Bacillus anthracis* in environmental swab samples. Finally, the laboratory ensures that pesticides deliver intended results by evaluating efficacy and registrant claims.

EPA's Analytical Chemistry Laboratory

The Analytical Chemistry Branch Laboratory supports the work of the EPA to determine the ecological risks that pesticides pose to plants, animals, and ecosystems, such as bees, that are not the targets of the pesticide by bringing new analytical methods online and using in-house expertise to develop and validate multi-residue pesticide analytical methods. Additional benefits are gained by transferring technologies, such as the multi-residue methods, to other EPA organizations and state laboratories for use in monitoring pesticide residues in the environment and ecological systems, and the standard method for testing permeability of agricultural tarps to fumigants, which is currently used by tarp manufacturers to measure the efficiency of newly developed and manufactured tarps.

The Analytical Chemistry Laboratory will continue to provide analytical support to fill data gaps for the Pesticide Program's risk assessments and for Section 18 emergency exemptions, and to perform studies for use in risk mitigation. Support includes working collaboratively with the United States Geological Survey (USGS) to identify the presence of pesticides in rivers and streams across the nation. These data will allow USGS and the EPA to study the patterns of exposure of agricultural and urban ecosystems to pesticides. The Analytical Chemistry Laboratory

also provides analytical assistance and technical advice to all EPA Regional offices for use in enforcement cases and reviews and validates analytical methods or studies submitted as part of a pesticide registration.

FY 2017 Activities and Performance Plan:

In FY 2017, the Microbiology Laboratory is working with the EPA's Emergency Management and Research and Development programs to evaluate and refine a Rapid Viability Polymerase Chain Reaction method (detects DNA) for *Bacillus anthracis* in environmental samples. The method also will be used to evaluate samples from remediation sites.

The laboratory is working with the Department of Army's Edgewood Chemical and Biological Center under an interagency agreement to evaluate various materials (wood, concrete, fabric, tile, etc.) for recovery of bio-threat agents and treatment with standard decontamination technologies such as chlorine dioxide and bleach. These types of materials are found at sites requiring remediation due to contamination with non-spore forming bio-threat agents.

The laboratory is working with the Department of Homeland Security under an Interagency Agreement on methodology and surrogates for measuring the efficacy of chemicals against high consequence animal pathogens on hard and porous surfaces. Of particular interest are methods for evaluating decontamination technologies for avian influenza. Outbreaks due to migratory birds have affected the poultry industry in the United States.

The Analytical Chemistry laboratory will continue to focus on analytical method development and validations as well as special studies to address specific short-term, rapid-turnaround priority issues. The laboratory also will continue to provide technical and analytical assistance to the USDA's various minor crop projects (under the cooperative IR-4) that benefit specialty crop growers, globally and in the U.S, as needed. The lab will continue to support pesticide registration review and U.S. tarp manufacturers by reviewing the permeability data of fumigants through newly manufactured tarps. In an effort to reduce emission of soil fumigants into the air, the agency established certain buffer zone credits based on the tarps' permeability: the lower the permeability of a tarp, the lower the emission of fumigants into the air and more fumigant remains in the soil for pest control. Thus, the EPA can allow a greater buffer zone reduction credit. The Analytical Chemistry Laboratory will continue to support pollinator work with the program's existing registration and registration review processes.

Performance Targets:

Work under this program supports performance results in the Pesticides: Protect the Environment from Pesticide Risk program under the EPM appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$35.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$439.0) This program change reflects a decrease due to the completion of the analysis of acute toxicity of pesticide for honeybees and the development of risk management options that protect pollinator health. In FY 2017 and beyond, the results of these efforts will be incorporated into the existing registration and registration review processes.

Statutory Authority:

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Endangered Species Act (ESA).

Pesticides: Realize the Value of Pesticide Availability

Program Area: Pesticides Licensing

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$8,642.4	\$6,086.0	\$6,845.0	\$759.0
<i>Science & Technology</i>	<i>\$552.4</i>	<i>\$571.0</i>	<i>\$548.0</i>	<i>(\$23.0)</i>
Total Budget Authority / Obligations	\$9,194.8	\$6,657.0	\$7,393.0	\$736.0
Total Workyears	61.0	46.5	46.5	0.0

Program Project Description:

The Chemical Safety and Pollution Prevention’s national program laboratories make significant contributions to help the agency realize the value of pesticides.

EPA’s Microbiology Laboratory

The Microbiology Laboratory evaluates and develops data to support Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) Section 18 Emergency Exemption requests to combat emerging or novel pathogens such as prions, new use sites such as those colonized by biofilms and conducts applied research on new analytical methods for novel antimicrobials. In many cases of new claims or pathogens, there is no standard method available for determining efficacy to support a pesticidal claim. For example, it is recognized that microorganisms that exist as biofilm communities may be more resistant to disinfection. The laboratory has technical expertise on managing unusual pathogens for which registration of a pesticide might not be economically viable under FIFRA Section 3 Registration. The evaluation of these requests is necessary in order to make pesticides available in the marketplace for these unusual or emergency situations. Examples include the H1N1 virus, prions, foot and mouth disease, and Severe Acute Respiratory (SAR) infections. The Microbiological Laboratory also evaluates the efficacy of antimicrobials to allow the EPA to remove ineffective products from the market. In addition, the Microbiology Laboratory provides technical support on numerous non-standard protocols for antimicrobials, including: foggers, chemicals used for inactivation of prions, use of citric acid for control of foot and mouth disease and evaluation of requests from other federal agencies to use paraformaldehyde for decontamination of laboratory environments.

EPA’s Analytical Chemistry Laboratory

The Analytical Chemistry Branch Laboratory works to benefit specialty crop growers by developing more cost-effective and efficient ways to establish tolerances (maximum residue levels). This is accomplished through the United States Department of Agriculture’s Inter-Regional Research Project No. 4 (IR-4), Crop Group Validation, which focuses on the development of analytical methods and analysis of crop samples to determine if, when applied at

the same rate, pesticide residues found in crops from same crop groups are similar. The data will be used to determine whether a representative crop from a crop group can be used as a model to establish tolerances for all the members of the crop group. Such a validation would support the concept of crop grouping being accepted in the Codex (the international food standards organization established by the World Health Organization and the United Nation's Food and Agriculture Organization) and by the Organization for Economic Co-operation and Development. Over 500 hundred samples have been analyzed to date in support of this project. The laboratory also provided analytical support to the IR-4 Global Study to evaluate the influence of spatial variation between various geographic locations around the world on the level of pesticide residues in field grown tomatoes when subjected to standardized application parameters and rates.

The Analytical Chemistry Laboratory efforts and resulting success in standardizing the tarp protocol through the American Society for Testing and Materials (ASTM) International provides tarp manufacturers with a method to test their newly manufactured tarps before submitting the data to the agency to request buffer zone credit²⁷, when fumigant is used as pest control in the field.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will realize the benefits of pesticides by operating the National Pesticide Standard Repository and conducting chemistry and efficacy testing for antimicrobials. As the recognized source for expertise in pesticide analytical method development, the EPA's laboratories will continue to provide quality assurance and technical support and training to the EPA's Regional Offices, state laboratories, and other federal agencies that implement FIFRA.

The Microbiology Laboratory will continue to evaluate Section 18 and novel protocol requests for new uses and novel pathogens. The Analytical Chemistry Laboratory will continue its work with the IR-4 Global Study and IR-4 Crop Group Validation Study.

Performance Targets:

Work under this program supports performance results in the Pesticides: Realize the Value of Pesticide Availability program under the EPM appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$23.0) This change to fixed and other costs is a decrease due to the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.

Statutory Authority:

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Federal Food, Drug, and Cosmetic Act (FFDCA), §408.

²⁷<http://www.epa.gov/soil-fumigants/calculating-buffer-zones-guide-applicators>

Program Area: Research: Air, Climate and Energy

Research: Air, Climate and Energy

Program Area: Research: Air, Climate and Energy
Goal: Addressing Climate Change and Improving Air Quality
Objective(s): Address Climate Change; Improve Air Quality

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Science & Technology</i>	\$84,453.4	\$91,906.0	\$101,151.0	\$9,245.0
Total Budget Authority / Obligations	\$84,453.4	\$91,906.0	\$101,151.0	\$9,245.0
Total Workyears	279.2	287.8	285.8	-2.0

Program Project Description:

Improvements in air pollution made over the past 45 years are being threatened by climate change and proven current approaches are complicated by rapidly changing energy technologies, which have both benefits and potential adverse effects. The EPA’s Air, Climate and Energy research program examines the interplay between air pollution, climate change, and the dynamic energy sector to develop innovative and sustainable solutions for improving air quality and taking action on climate change. The ACE research program engages agency partners and external stakeholders to provide research to fulfill the EPA priorities and mandates (e.g. Clean Air Act (CAA)), meet partners’ needs, fill knowledge gaps within broader efforts across the federal government and complement research conducted by the larger scientific community.

The ACE research program is integrated with other EPA research programs. For example, ACE collaborates on nutrient management and global change impacts research with the Safe and Sustainable Water Resources (SSWR) and the Sustainable and Healthy Communities research programs. ACE research also is reflected in the data synthesis of the Human Health Risk Assessment program’s integrated science assessments and multi-pollutant science documents.

Recent accomplishments include:

Enabling Air Monitoring Partnerships

In FY 2015 Aclima, Inc., a San Francisco-based company, announced a new partnership with Google Earth Outreach to map and better understand urban air quality. The EPA provided scientific expertise in study design and instrument operations as part of a Cooperative Research and Development Agreement (CRADA) with Aclima. The technology will allow the use of Google cars to monitor levels of several pollutants: nitrogen dioxide, nitric oxide, ozone, carbon monoxide, carbon dioxide, methane, black carbon, particulate matter, and volatile organic compounds (VOCs). Data from this study will help determine how air pollutants move in an urban area at the ground level.

Next Generation Air Monitoring

The EPA has continued to be a leader in revolutionizing regional, community, fence-line, and personal monitoring. During FY 2015, the EPA created an air sensor toolbox on the web, developed a prototype testing platform, and worked with National Oceanic and Atmospheric Administration (NOAA), National Aeronautics and Space Administration (NASA), and National Science Foundation (NSF) to relate satellite-based air quality data to ambient monitoring. In FY 2015, the EPA expanded the deployment of our Village Green monitoring stations from one to four locations in the United States and added an international location at a school in Hong Kong. There is tremendous demand for this technology, which currently provides real-time data on two criteria air pollutants (ozone and particulate matter) and meteorological conditions that are made available online, in real time, to the public. Additional technologies are currently being evaluated to measure more air pollutants including oxides of nitrogen and black carbon.

Improved Methods for Down-Scaled Climate Model Results

Downscaling is a technique for generating regionally or locally relevant information from global models. Dynamic downscaling of global climate models improves the representation of key influences on air pollution formation and transport (including atmospheric circulation, summertime precipitation, effects on lakes, and extreme events). Downscaled data improves the resolution of important meteorological parameters to better understand the impact of climate change on air pollution. In FY 2015, these improved methods allowed the EPA and stakeholders to identify areas of increased daily maximum 8-hour average ozone concentrations that are largely consistent with areas of increased daily maximum temperature.

Mobile Smog Simulator

The mobile simulator, designed by the EPA's scientists, enables the generation of air pollutant mixtures in the laboratory that represent different areas of the U.S. with the ability to simulate changing temperature and humidity. This "real-life" simulator enables the EPA to use in-vitro assays and animal exposure to study the effects of the air that is inhaled by people across the U.S. In FY 2015 initial studies were performed to demonstrate that the simulator was working as designed. The initial studies also showed respiratory effects and cardiac arrhythmias in rodents exposed in the simulator.

Community Multi-Scale Air Quality Model Update

In December 2015, the EPA released an updated version of the Community Multi-Scale Air Quality Model (CMAQ) to improve estimates of several key air pollutants and hazardous air pollutants and their interactions, including ultrafine particulate matter and nitrogen-based air pollutants in various forms. The updates will allow users to more accurately predict the effects of the urban heat island and aerosols on climate, allowing States to better target emissions reductions to meet air quality standards that protect human health and the environment.

Methane Emissions from a Mid-Latitude Agricultural Lake

In FY 2015, the EPA's researchers found that methane emissions rates at the extreme upstream portions of a Midwest reservoir were ten to 1,000 times greater than other areas of the reservoir, highlighting the importance of including areas below river inflows in reservoir methane budgets. The results could have important implications for improving methane emission inventories and achieving emission reductions through an integrated approach to water management. Work was initiated by the SSWR research program, with subsequent support from the ACE program as

results indicated the importance of methane emissions. Methane is a powerful greenhouse gas, so more accurate modeling of methane emissions is important in understanding climate change. This effort highlights the EPA's cross-program integration.

One Environment Modeling

The EPA has developed an integrated atmospheric deposition and watershed modeling system to jointly model air and watershed processing of environmental pollutants to more fully simulate and understand the dynamic behavior of nitrogen and other nutrients in the environment. The modeling system improves the ability of state and local decision-makers to understand how their actions to improve air emissions might impact water quality and vice versa.

FY 2017 Activities and Performance Plan:

Protecting Environmental Health and Well-being:

The EPA's research has provided the scientific basis for air quality standards and management practices that are far-reaching in their impacts. In FY 2017, ACE will continue to provide the underlying research to support the agency's implementation of the CAA, which mandates the review of the National Ambient Air Quality Standards (NAAQS). The EPA research currently provides 40 percent of the cited fundamental data used to develop the NAAQS levels.²⁸

The EPA also will continue to examine the effects from exposures to air pollutant *mixtures* rather than *single contaminants* to reflect real-life exposure to better protect the public and the environment. Research is currently focused on both controlled laboratory studies to mimic air pollution mixtures of different composition and real-world exposures to mixtures in various cities across the U.S. where the concentration of air pollutants are at or near the current NAAQS levels. This research is conducted to understand how regional differences in the composition of air pollution mixtures may impact public health and the environment.

The EPA will translate the results of this research to better inform the public about measures they may be able to take to reduce the impacts of air pollution. This will include addressing ways to lower exposure or limit the health effects at the individual, community, or ecosystem level and evaluating the benefits (economic, health and/or well-being) of the suggested interventions. For example, the EPA will study the cardiovascular and respiratory effects associated with exposures to pollutant mixtures and will investigate what factors, such as disease, genetics and social factors, impact susceptibility to these health impacts.

Atmospheric and Integrated Modeling Systems:

In FY 2017, the ACE research program will continue to develop models that support effective air quality management aimed at protecting public health and the environment. State and local agencies rely on such tools to implement NAAQS. Improvements to the CMAQ modeling system²⁹ will increase capabilities (there are about 4,000 users worldwide) to evaluate strategies for reducing air pollution. ACE also is developing CMAQ's capabilities to evaluate the impacts of a changing climate on air quality and to more effectively model community scale air quality.

²⁸ For more information, <http://www.epa.gov/ncea/isa/>.

²⁹ For more information, <http://www.cmaq-model.org/>.

The ACE research program also is working to integrate air, water, and land-use modeling to understand and estimate integrated, multimedia impacts of air pollutants on air quality, water quality, and other ecological endpoints. The research, integrated across several EPA research programs, allows policymakers to design more effective management practices for nitrogen and co-pollutants, such as phosphorus and sulfur, supporting decision making at the community, state and national levels.

Emission and Measurements:

In FY 2017, the ACE research program will continue to develop and evaluate source and ambient air monitoring methods required to support implementation of regulations, including effective compliance and enforcement. Research will continue to support the development and refinement of emissions inventories or near-source emission profiles to standardize implementation plans for state and local air monitoring personnel. For example, the EPA is developing community-targeted tools for the use and interpretation of air sensor data.

Climate Impacts, Vulnerability and Adaptation:

In alignment with the President's Climate Action Plan,³⁰ the EPA will continue to conduct research on the impacts of climate change on air quality, water quality, and ecosystems to enable individuals, communities, states, and businesses to prepare for, adapt to and mitigate climate change. For example, ACE research will examine how increased temperatures and other climate-driven effects may interact with air pollutants to alter health responses and evaluate the vulnerability of water treatment systems to extreme weather events. The EPA also will develop and apply computational tools for analyses of potential co-benefits and trade-offs of various future energy scenarios and air quality management practices in a changing climate.

The EPA's climate change research is conducted in coordination with other agencies through the U.S. Global Change Research Program (USGCRP). These efforts support USGCRP priority research topics, with particular emphasis on developing actionable science to inform local, state, and national decisions on how to respond to our changing climate. ACE research on models and observations of environmental changes related to climate change are critical to the EPA's ability to improve and maintain clean air and water and healthy ecosystems.

Sustainable Energy and Mitigation:

In FY 2017, the EPA will continue to collaborate with the Department of Energy (DOE) and the Department of the Interior (DOI) as part of the Federal Multiagency Research Strategy on Unconventional Oil and Gas Research. This research strategy is designed to evaluate the potential impacts of hydraulic fracturing on air quality to support sustainable approaches to unconventional oil and natural gas development and production. This research will include a focus on air toxics and tropospheric ozone precursors and complements efforts in the SSWR research program to study the potential impacts of hydraulic fracturing on water quality and ecosystem resources.

The ACE research program will develop data and tools to evaluate the potential beneficial and adverse environmental implications of adopting alternative energy options at the national and regional scale. Research also will continue to investigate the environmental performance of specific energy production and conversion technologies to enable comprehensive comparison of

³⁰ For more information, <http://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf>.

energy technology options. This research will develop and apply models to evaluate how possible future changes in energy technology may affect air pollutant and greenhouse gas (GHG) emissions and water demand, as well as other environmental and human health endpoints.

Clean Energy Pledge:

The President joined other world leaders at the recent Paris climate negotiations to launch Mission Innovation, a landmark commitment to dramatically accelerate public and private global clean energy innovation, by investing in new technologies that will define a clean, affordable, and reliable global power mix. Through this initiative, the U.S. and 19 other countries have committed to doubling their governmental clean energy research and development investment over five years. Successful innovation in clean energy requires broad participation, including nontraditional approaches and innovators close to stakeholders that will benefit from clean energy solutions. Mission Innovation provides a robust framework to expand and better integrate clean energy research across agencies. In FY 2017, the EPA will study the environmental and resource conservation impacts of clean fuels use on air and water quality, soil quality and conservation, water availability, ecosystem health and biodiversity, invasive species, and on the international environment.

Research Partnerships:

ACE will continue its successful research partnerships with academia and private sector research organizations through the EPA’s ACE Research Centers and the Health Effects Institute. In order to approach air pollution and climate change sustainably, the EPA continues to strengthen interactions with other agencies, including NOAA, DOE, the U.S. Department of Agriculture, the National Institutes of Health (NIH), the Federal Highway Administration, and the National Association of Clean Air Agencies. These partnerships are critical to better inform decision makers to protect human health and the environment, and achieve research goals in an ever shrinking resource environment.

Performance Targets:

Measure	(AC1) Percentage of products completed on time by Air, Climate, and Energy research program.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			100	100	100	100	100	100	Percent
Actual			100	92	87	87			

Measure	(AC2) Percentage of planned research outputs delivered to clients for use in taking action on climate change or improving air quality.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			100	100	100	100	100	100	Percent
Actual			77	83	92	74			

The table reflects the ACE program’s annual performance measures. The EPA uses these measures to assess our effectiveness in delivering needed products and outputs to clients and decision-makers at the federal government level.

The EPA has established a standing subcommittee under the EPA's Board of Scientific Councilors for the ACE program to evaluate its performance and provide expert feedback to the agency. In addition, the EPA will meet regularly with both the Board of Scientific Counselors and Science Advisory Board over the next several years to seek their input on topics related to research program design, science quality, innovation, relevance and impact, within the context of the agency's Strategic Plan. This includes advising the EPA on its strategic research direction as part of the review of the Research and Development programs' recently-released Strategic Research Action Plans (StRAPs).³¹

The EPA collaborates with several science agencies and the research community to assess our research performance. For instance, the EPA is partnering with NIH, NSF, DOE, and USDA. The agency also will work with the White House's Office of Science and Technology Policy. The EPA supports the interagency Science and Technology in America's Reinvestment, Measuring the Effect of Research on Innovation, Competitiveness and Science (STAR METRICS) effort.³²

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$1,879.0 / -5.4 FTE) This change reflects an increase of \$2,117.0 to fixed and other costs for the agency recalculation of base workforce costs due to adjustments in salary, working capital fund, and benefits and a net decrease of \$238.0 and 5.4 FTE from essential research program support.
- (+\$1,496.0 / +4.5 FTE) This program change reflects an increase to the EPA's study of the potential impacts of hydraulic fracturing on air quality to support sustainable approaches to unconventional oil and natural gas development and production.
- (+\$3,000.0) As a part of the President's Mission Innovation commitment to dramatically accelerate public and private global clean energy innovation, this program change reflects an increase to study the environmental and resource conservation impacts of clean fuels use on air and water quality, soil quality and conservation, water availability, ecosystem health and biodiversity, invasive species, and on the international environment.
- (+\$908.0 / -1.1 FTE) This net program change reflects an increase to research related to the development of next generation air quality models needed to integrate multimedia and climate models with air quality models as well as \$360.0 to support laboratory consolidation efforts.
- (+\$1,962.0) This program change reflects an increase to provide further research on climate change and nitrogen interactions, and develop long-term emissions inventories for differentiating changing emissions related to human activities and for better understanding benefits and impacts of an alternative energy infrastructure on the environment and climate change.

Statutory Authority:

³¹ EPA Strategic Research Action Plans, <http://www.epa.gov/research/strategic-research-action-plans-2016-2019>.

³² STAR METRICS, <https://www.starmetrics.nih.gov/>.

Clean Air Act; Title II of Energy Independence and Security Act of 2007; Environmental Research, Development, and Demonstration Authorization Act (ERDDAA); Intergovernmental Cooperation Act; National Environmental Policy Act (NEPA), § 102; Pollution Prevention Act (PPA); Global Change Research Act of 1990.

Program Area: Research: Safe and Sustainable Water Resources

Research: Safe and Sustainable Water Resources

Program Area: Research: Safe and Sustainable Water Resources

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems; Protect Human Health

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Science & Technology</i>	<i>\$102,249.4</i>	<i>\$107,434.0</i>	<i>\$106,257.0</i>	<i>(\$1,177.0)</i>
Total Budget Authority / Obligations	\$102,249.4	\$107,434.0	\$106,257.0	(\$1,177.0)
Total Workyears	391.9	403.0	402.5	-0.5

Program Project Description:

Increasing demands for sources of clean water—combined with changing land use practices, shifting populations, aging infrastructure, and climate change and variability—pose significant threats to our water resources. Failure to manage the Nation’s waters in an integrated, sustainable manner can jeopardize human and aquatic ecosystem health, which can impact our society and economy. Through innovative science and engineering, the Safe and Sustainable Water Resources (SSWR) research program is developing cost-effective, sustainable solutions to complex 21st century water issues and is proactively developing solutions to emerging concerns.

The SSWR research program is using an integrated, systems approach to develop scientific and technological solutions to protect human health and to protect and restore watersheds and aquatic ecosystems. This work is being done in partnership with other EPA programs, federal and state agencies, academia, nongovernmental agencies, public and private stakeholders, and the global scientific community. This cross-cutting approach maximizes efficiency, interdisciplinary insights and integration of results. The SSWR research program’s activities are guided by four objectives:

- Address current and long-term water resource challenges for complex chemical and microbial pollutants;
- Transform the concept of 'waste' to 'resource';³³
- Quantitate benefits of water quality; and
- Translate research into real-world solutions.

To achieve these overarching objectives and address their respective scientific challenges, SSWR research projects are organized into four interrelated research topics:

- **Watershed Sustainability:** Gathering, synthesizing, and mapping the necessary environmental, economic, and social information of watersheds, from local to national scales, to determine the condition, future prospects, and restoration potential of the

³³ SSWR strives to transform the perception of wastewater as something to discard to the conception of a beneficial alternative source of water (water reuse) and recovered commodities (resource recovery). Research will include treatment, monitoring and risk assessment for fit-for-purpose water treatment for a variety of finished water types (e.g., irrigation, thermoelectric cooling, industrial) and approaches to recover nutrients, biogas, metals and other valuable commodities.

Nation's watersheds.

- **Nutrients (including harmful algal blooms):** Conducting the EPA nitrogen and co-pollutant (e.g., phosphorus, sulfur, sediment) research efforts for multiple types of water bodies and coordinating across media (water, land, air) and various temporal and spatial scales, including support for developing numeric nutrient criteria, decision-support tools, and cost-effective approaches to nutrient reduction.
- **Green Infrastructure:** Developing innovative tools, technologies, and strategies for managing water resources (including stormwater) today and over the long term as the climate and other conditions change.
- **Water Systems (Drinking Water and Wastewater):** Developing tools and technologies for the sustainable treatment of water and wastewater, and promoting the economic recovery of water, energy, and nutrient resources through innovative municipal water services and whole system assessment tools. This topic area focuses on small water systems and can be scaled up to larger systems.

Each topic carries specific near- and long-term goals designed to yield practical tools and solutions for ensuring sustainable water resources.

Recent accomplishments include:

Hydraulic Fracturing Assessment Report

On June 4, 2015, the EPA released its *Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources* (External Review Draft),³⁴ along with nine peer-reviewed EPA reports conducted as part of the EPA's Hydraulic Fracturing Drinking Water Study. This study has produced a total of 12 EPA reports and four EPA-authored journal publications. The draft assessment is based on an extensive review of the literature, results from the EPA research studies, and technical input from state, Tribal, industry, non-governmental organizations, and the public. It advances scientific understanding of the potential impacts of hydraulic fracturing on drinking water resources and the factors that may influence those impacts. The assessment is an important resource for states, tribes, industry and other stakeholders, as well as the public, who are seeking to develop unconventional oil and gas resources while protecting human health and the environment.

The EPA's draft hydraulic fracturing drinking water assessment will be reviewed by the agency's Science Advisory Board (SAB) in FY 2016, and the EPA will use the comments and suggestions received from the SAB, together with comments received from the public, to revise, augment, and finalize the assessment. We project completing the assessment in 2016.

Improving Flint, MI Drinking Water Quality

In coordination with the Regional office, federal, and state partners, the agency's Research and Development program developed a list of potential technical assistance priorities to improve Flint's drinking water quality. These potential technical assistance priorities include identifying the locations of lead-containing service lines, addressing existing sampling guidelines, mitigating lead release, and preparing for future source water changes. The agency's Office of Research and

³⁴ <http://www2.epa.gov/hfstudy>.

Development researchers plan to install a mobile pipe loop rig in the Flint drinking water treatment plant (DWTP) in FY 2016. The mobile rig will examine lead release from pipes, evaluate lead mitigation strategies and corrosion control, and assess any potential problems with contaminants released when the Flint DWTP switches from the current water source (Detroit) to water from Lake Huron.

Developing Low-cost Nutrient Sensors

The Nutrient Sensor Challenge³⁵ was launched in December 2014. The challenge is a continuation of effort research priority to address nutrient pollution in America's waterways. In collaboration with the EPA's water program, Office of Science and Technology Policy (OSTP), U.S. Geological Survey (USGS), National Oceanic and Atmospheric Administration (NOAA), and National Institute of Standards and Technology, this challenge aims to accelerate the development and deployment of affordable aquatic nutrient sensors. 29 teams registered to participate in the challenge. The challenge supports a vast amount of ongoing research in the SSWR research program on nutrient pollution.

Water Technology Innovation Clusters

In FY 2015, the Water Technology Innovation Clusters program³⁶ continued to see rapid progress in the development of cluster initiatives across the country. The focus this year has been on completing funded research projects, promoting technology transfer and commercialization of EPA-developed technologies, and participating in key events (e.g., the Technology Innovation Showcase). The showcase offered hands-on demonstrations of cutting edge water technologies, and provided information to participants on how they can work with the EPA to design, develop and demonstrate their innovative solutions to water challenges.

Connectivity Report

Following Supreme Court decisions in 2001 and 2006, the water program, working together with the U.S. Army Corps of Engineers (USACE), initiated steps to develop guidance and rulemaking to clarify the Clean Water Act (CWA) definition of "Waters of the U.S." and thus, the jurisdiction of the CWA.

The EPA's SSWR program pursued related research in support of the guidance. The final report, *Connectivity of Streams and Wetlands to Downstream Waters: A review and synthesis of the scientific evidence*,³⁷ was released on January 15, 2015. The EPA, along with other federal agencies and states, can use this scientific report to inform policy and regulatory decisions, including the Clean Water Rule developed by the EPA and USACE.

Small Drinking Water and Wastewater Systems Outreach

As part of our small systems outreach efforts, SSWR and the EPA's Water program, in collaboration with the Association of State Drinking Water Administrators, hosted a 2015 collaborative monthly webinar series, *Challenges and Treatment Solutions for Small Drinking Water and Wastewater Systems*,³⁸ and hosted a face-to-face workshop, *EPA Drinking Water*

³⁵ <http://www.act-us.info/nutrients-challenge/>.

³⁶ <http://www2.epa.gov/clusters-program>.

³⁷ <http://nepis.epa.gov/Exe/ZyPDF.cgi/P100LOJZ.PDF?Dockey=P100LOJZ.PDF>.

³⁸ <http://www2.epa.gov/water-research/2015-small-systems-webinar-series>.

Workshop – Small Systems Challenges and Solutions,³⁹ in August of 2015 in Cincinnati, Ohio. Both provided a forum for the EPA to communicate its current small systems research in concert with agency priorities directly to state personnel, the Regional Offices, and other drinking water and wastewater small systems organizations. This allows the SSWR and the Water program to provide training and foster collaboration and dissemination of information, which, in turn, will help state agencies communicate the latest scientific advancements and current guidance to their small system operators.

Since the inaugural webinar in January 2015, the webinar series has attracted over 7,800 attendees from across the Nation – of which 56 percent were state personnel. Additionally, the webinar series has provided 3,300 continuing education contact hour certificates. The annual face-to-face workshop typically attracts over 200 attendees and provides continuing education certificates. The webinar series and workshop attract attendees from state, federal, and local agencies; Tribal Nations; water utilities; academia; consultants; non-governmental organizations and others.

Methane Emissions from a Mid-Latitude Agricultural Lake

In FY 2015, the EPA's researchers found that methane emission rates at the extreme upstream portions of a Midwest reservoir were ten to 1,000 times greater than other areas of the reservoir, highlighting the importance of areas included in reservoir methane plans. The results could have important implications for improving methane emission inventories and achieving emission reductions through an integrated approach to water management. Work under this study was initiated by the SSWR research program, with subsequent support from the EPA's Air, Climate and Energy (ACE) program. This effort highlights the EPA's cross-program integration.

National Research Centers for Small Drinking Water Systems

In FY 2015, SSWR funded two National Research Centers as part of the Science to Achieve Results (STAR) program to develop and demonstrate sustainable and innovative technologies to better reduce, control and eliminate groups of chemical or microbial contaminants in small water systems. These Centers will leverage efforts with many stakeholders (including tribes and rural communities), researchers, and others involved in facilitating sustainability of small drinking water systems.

Green Infrastructure (GI) in Puerto Rico.

In 2015, the agency's Office of Research and Development researchers made soil hydrologic assessments in the Martin Peña Canal (an Urban Waters project and Making a Visible Difference in Communities area), which is the focus of a planned dredging effort. The research team assessed other landscapes around the San Juan, PR metropolitan area. These assessments provided results on storage and infiltration capacities of urban soils and were critical for making decisions on GI type and placement. In the current plan, using Regional Applied Research Effort (RARE) funding, the agency's Research and Development program researchers will collaborate with the EPA's Regional Office and the Martin Peña community to install rain gardens at two sites to increase stormwater retention.

³⁹ <http://www.cvent.com/events/12th-annual-u-s-epa-drinking-water-workshop/archived1b618f62e4b34b8ba2dfc2c6d6ccdd53.aspx>.

FY 2017 Activities and Performance Plan:

In order to achieve its goals, the SSWR program has focused its four topic areas on specific research objectives as outlined below.

Watershed Sustainability

Research objectives:

- Assess, map and predict the integrity, resilience, and restoration potential of the Nation's water resources;
- Conduct science to support new or revised water quality criteria to protect human and aquatic life;
- Protect water resources related to sustainable resource extraction;
- Develop a national water-quality benefits modeling framework; and
- Integrate watershed management for sustainable outcomes.

The EPA will continue to develop and improve the interoperability of models to assess, map and predict watershed integrity by building on and utilizing large volumes of environmental data, Geographic Information System (GIS), and modern computing power. These efforts will include linkages to the agency's EnviroAtlas. Building on these modeling and mapping efforts, the EPA will determine factors that contribute to degraded conditions and watershed resilience and recovery. The EPA will continue research support for the Water program in: (1) deriving aquatic life criteria, with special attention to groups of pollutants and emerging pollutants; and (2) implementing existing and new EPA water quality regulations (e.g., ammonia ambient water quality criteria).

In addition, the agency's research program will continue to provide sampling designs, indicators, and other support for the rotating national aquatic resource surveys (NARS) of lakes, streams, rivers, wetlands, and estuaries to support the water program. Innovations will include: (1) integrating ecological condition assessments with human health and economic dimensions, and (2) deployment of more rapid, cost-effective and innovative methods of assessment.

In FY 2017, the EPA will study the potential impacts of hydraulic fracturing on water quality and ecosystems to support sustainable approaches to unconventional oil and natural gas development and production. These research activities will be conducted in coordination with federal partners, including DOI and DOE, as identified in the multiagency research strategy, to ensure that development of unconventional oil and gas resources is conducted while protecting human health and the environment. This complements efforts in the ACE research program to study the potential impacts of hydraulic fracturing on air quality.

Also in FY 2017, a collaborative, cross-agency economic analysis will continue to account for the value of water benefits. This analysis will provide tools for determining changes in value associated with changes in water quality, ecosystem services of water bodies, and watershed integrity.

Finally, the EPA will provide accessible information, sustainability indicators, models and other tools encompassing three dimensions of sustainability. This information will include multi-sector systems analysis of major environmental changes (e.g., extreme weather events and climate change).

Nutrients

Research objectives:

- Reduce impacts of harmful algal blooms;
- Inform the development of nutrient thresholds and targeting actions; and
- Improve nutrient management practices, metrics of benefits, accountability and communication.

The EPA research will continue to assist the agency's water program, states, communities, and other stakeholders by: (1) providing the scientific basis to establish nutrient targets to sustain ecosystem and human health, and the ecosystem services that support human health and the economy, and (2) developing improved data, tools, and technologies to allow decision makers to determine priority systems for management actions.

In partnership with program offices and regional offices, other federal agencies, states, tribes, and communities, the research and development program will improve technologies and management practices to monitor and reduce nutrient loadings. The EPA will focus on providing technical support to design sustainable approaches beyond current regulatory approaches, and for important unregulated sources of nitrogen and co-pollutants, in high priority areas that are susceptible to harmful algal blooms and other threats to drinking water.

In addition, the agency will develop the metrics, monitoring designs, and methods to assess the changes in ecosystem, human health, and societal benefits resulting from application of nutrient management actions and technologies. Efforts also will help to effectively communicate the need, and how to reduce loadings to the variety of contributing stakeholders for improved results.

The nutrient work described for this research topic will address reducing nitrogen and phosphorous loading, which can lead to harmful algal blooms. The EPA research also will evaluate the relationship between changing water temperatures (and other drivers) and the development and duration of algal blooms as well as the proclivity of algae to produce cyanotoxins. Additional work on harmful algal blooms will include improving the detection and treatment of algae and cyanobacteria, and the harmful toxins they produce, in watersheds and water systems.

Green Infrastructure

Research objectives:

- Advance tools and models for green infrastructure (GI) implementation in communities; and
- Provide information and guidance through community partnerships.

The EPA will continue leading research on the development, adaptation and assessment of models, tools and guidance to provide community planners and decision makers the ability to integrate GI practices and stormwater runoff considerations into their planning options. These tools will complement more complex tools, such as the Storm Water Management Model (SWMM), that

provide more detailed implementation and design of green and gray infrastructure and the High Service Pump Stations⁴⁰ for watershed pollutant loading reductions.

On-going new community pilot studies will examine the effectiveness of GI pilots and potential co-benefits to develop guidance and lessons learned for other communities. Community partnerships also will provide information on the role of GI on infiltration, groundwater recharge, excess nutrient loading on wetlands, and potentially aquifer storage and recovery.

Water Systems

Research objectives:

- Develop, evaluate, and facilitate adoption of technologies to support, advance and transform water systems; and
- Ensure the safety of the Nation's waters.

This work will provide a continuum of research, ranging from application of the newest tools to address current community concerns and inform regulatory actions, to assessment of new monitoring and treatment approaches, and allowing communities to consider more innovative restructuring of water systems to meet sustainability and resiliency goals. Research will assess the health and environmental impacts of known and emerging risks of individual and groups of chemical and biological contaminants, including algal toxins and cyanotoxins, in drinking water and its sources.

Research on current water systems, especially for small systems, will include risk assessment and risk management to support federal regulations and guidance and regional, state, and community programs and rule implementation. Transitioning to the next steps in advanced water system technologies, the EPA research will develop, test, and promote adoption of drinking water, stormwater, and wastewater technologies that will protect human health and the environment, while maximizing recovery of embedded resources (e.g., nutrients, energy, and metals). These efforts will support the longer term transformation of water systems in the United States, for which the EPA will conduct integrated sustainability assessments, develop novel approaches, prioritize risks, and provide a framework for decision making.

Water reuse will be an essential component of a sustainable water supply by mitigating water withdrawals from surface and groundwater sources, especially in drought-stressed regions of the Nation. The EPA will have a key role in establishing guidelines for safe potable and non-potable use of alternative water supplies for domestic, energy and agricultural purposes. Resource recovery and water reuse offer opportunities for collaboration within the water program's Science and Technology Cluster, and with other federal agencies, industry and international organizations to expedite the development and market introduction of cost effective and low carbon footprint technologies.

⁴⁰ Pump stations are facilities that consist of pumps and service equipment designed to pump flows from lower to higher elevations to allow continuous and cost-effective treatment through unit processes within the plant.

Performance Targets:

Measure	(SW1) Percentage of planned research products completed on time by the Safe and Sustainable Water Resources research program.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			100	100	100	100	100	100	Percent
Actual			86	70	90	100			

Measure	(SW2) Percentage of planned research outputs delivered to clients and partners to improve the Agency's capability to ensure clean and adequate supplies of water that support human well-being and resilient aquatic ecosystems.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			100	100	100	100	100	100	Percent
Actual			50	100	100	100			

The tables above reflect the SSWR program’s annual performance measures. The EPA uses these measures to assess its effectiveness in delivering needed products and outputs to clients (decision makers, states, and local governments).

The EPA has established a standing subcommittee under the EPA’s Board of Scientific Councilors (BOSC) for the SSWR program to evaluate its performance and provide expert feedback to the agency. In addition, the EPA will meet regularly with both the BOSC and SAB over the next several years to seek their input on topics related to research program design, science quality, innovation, relevance and impact within the context of the agency’s Strategic Plan. This includes advising the EPA on its strategic research direction as part of the review of the research and development programs recently released Strategic Research Action Plans (StRAPs).⁴¹

The agency collaborates with several science agencies and the research community to assess our research performance. For example, the EPA is partnering with the National Institutes of Health, National Science Foundation, Department of Energy, Department of Agriculture, USGS, U.S. Fish and Wildlife Service, USACE, Department of Defense, National Aeronautics and Space Administration, NOAA, and others. The EPA also works with the White House’s OSTP and supports the interagency Science and Technology in America’s Reinvestment–Measuring the Effect of Research on Innovation, Competitiveness and Science (STAR METRICS) effort.⁴²

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$2,352.0 / -3.0 FTE) This change reflects an increase of \$1,989.0 to fixed and other costs for the agency recalculation of base workforce costs due to adjustments in salary, working capital fund, and benefits and a net increase of \$363.0 and decrease of 3.0 FTE for essential research program support.

⁴¹ EPA Strategic Research Action Plans, <http://www.epa.gov/research/strategic-research-action-plans-2016-2019>.

⁴² STAR METRICS <https://www.starmetrics.nih.gov/>.

- (+\$2,153.0 / +5.5 FTE) This program change reflects an increase in support of a study of the potential impacts of hydraulic fracturing on water quality and ecosystems to support sustainable approaches to oil and natural gas development and production.
 - (-\$340.0) This program changes reflects a decrease to research to protect water resources during the development of energy and mineral resources.
- (-\$2,234.0 / -1.3 FTE) This program change decreases water quality research associated with the protection of watershed and aquatic system integrity designed to contribute to long-term water management.
- (-\$3,108.0 / -1.7 FTE) This program change decreases drinking water system research including: research and tools to support small drinking water systems for states, tribes, and localities; and research to expand water reuse for municipalities, energy production and thermoelectric cooling, and irrigation for the goal of mitigating water shortages.

Statutory Authority:

Safe Drinking Water Act (SDWA), § 1442(a)(1); Clean Water Act, §§ 101(a)(6), 104, 105; Environmental Research, Development, and Demonstration Authorization Act (ERDDAA); Marine Protection, Research, and Sanctuaries Act (MPRSA), § 203; Title II of Ocean Dumping Ban Act of 1988 (ODBA); Water Resources Development Act (WRDA); Wet Weather Water Quality Act of 2000; Marine Plastic Pollution Research and Control Act of 1987 (MPPRCA); National Invasive Species Act; Coastal Zone Amendments Reauthorization Act (CZARA); Coastal Wetlands Planning, Protection and Restoration Act; Endangered Species Act (ESA); North American Wetlands Conservation Act; Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Toxic Substances Control Act (TSCA).

Program Area: Research: Sustainable Communities

Research: Sustainable and Healthy Communities

Program Area: Research: Sustainable Communities

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Promote Sustainable and Livable Communities

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Inland Oil Spill Programs	\$696.4	\$664.0	\$534.0	(\$130.0)
<i>Science & Technology</i>	<i>\$138,347.5</i>	<i>\$139,975.0</i>	<i>\$134,327.0</i>	<i>(\$5,648.0)</i>
Leaking Underground Storage Tanks	\$284.5	\$320.0	\$365.0	\$45.0
Hazardous Substance Superfund	\$14,611.0	\$14,032.0	\$11,463.0	(\$2,569.0)
Total Budget Authority / Obligations	\$153,939.4	\$154,991.0	\$146,689.0	(\$8,302.0)
Total Workyears	476.5	476.3	477.5	1.2

Program Project Description:

The EPA’s Sustainable and Healthy Communities (SHC) research program conducts research on innovative and effective regulatory and non-regulatory approaches to protecting human and environmental health and develops decision support tools to serve two primary customers: 1) federal decision makers at the EPA including the Land and Emergency Management Program Solid Waste and Emergency Response Program, the EPA’s Regional Offices, and other EPA program offices; and 2) community decision makers across the country. This program directly supports the agency’s strategic goal of cleaning up communities and advancing sustainable development, as well as cross-cutting strategies of making a visible difference in communities across the country and enhancing state, Tribal, and local partnerships.

Communities’ critical decisions about transportation, materials management and solid waste, land use, and the built environment rarely focus on the interrelationships among social, economic, health and ecological outcomes. The EPA’s research and decision support tools within the SHC program are important because they provide decision makers with an integrated systems approach to simultaneously address a diverse set of environmental protection objectives while avoiding unanticipated consequences.

The SHC program’s research products are also important to the agency because they support critical regulatory and policy needs. These needs include managing waste and materials, remediating contaminated sites, protecting children’s health, ensuring environmental justice, and linking environmental quality (including ecosystem goods and services) to community health and economic outcomes.

Recent accomplishments include:

- **Health Impact Assessment Informs Atlanta’s Plans to Expand Green Infrastructure in Proctor Creek**⁴³ – The community surrounding Proctor Creek in Atlanta faces a host of challenges, including pervasive street flooding, repeated sewage backups, derelict properties, illegal tire dumping, and bacterial contamination in the creek itself. Working with the EPA, the community identified solutions to address multiple problems at once. The City of Atlanta proposed the “Boone Boulevard Green Street Project,” which incorporated green infrastructure elements such as permeable pavement, bioretention systems, and planter boxes to reduce stormwater runoff and associated pollution. In FY 2015, EPA researchers completed a Health Impact Assessment (HIA) of this green street project and shared the report with the City of Atlanta. The HIA results concluded that the green street would be effective in improving human health in the communities adjacent to the green street. The HIA also included recommendations to the City of Atlanta to maximize the public health benefits of the project. As a result of these findings, the City of Atlanta has decided to double the length of the green street. Additionally, city officials and community members are working with the EPA to complete a second HIA to identify additional locations for green infrastructure that maximize benefits to public health.
- **Release of the EPA Web-based Report on the Environment** – In July 2015, the EPA publically-released the web-based Report on the Environment⁴⁴ (ROE), a significant revision to the 2008 version. This ROE is a comprehensive source of scientific indicators that describe the status and trends in the nation's environment and human health condition. The 2015 version includes a section on sustainability and four new sustainability indicators. The ROE indicators are based on data collected by the EPA, other federal and state agencies, and non-governmental organizations. The indicators help to answer important questions about the current status and historical trends in U.S. air, water, land, human health, and ecological conditions at the national and regional levels.
- **Publication of the NESCS Report** -- The National Ecosystem Services Classification System (NESCS) provides a framework for analyzing the impacts of policy-induced changes to ecosystems on human welfare. The NESCS benefits not only EPA program offices, but also decision makers in both governmental and non-governmental organizations and industries from the local to international scale. In September 2015, SHC, in collaboration with the Water program, published an EPA report on the NESCS⁴⁵ that identifies a process for using final ecosystem services for policy analysis and provides a structure linking final ecosystem goods and services (FEGS) metrics to national accounts.
- **Expansion of the EnviroAtlas** – SHC research has continued to expand the use of EnviroAtlas, an online spatial decision support tool that allows users to view and analyze supply, demand, and drivers of change associated with the built and natural environment. In particular, data has been added to the tool that is specific to 12 additional communities across the U.S. This has led to several use cases, allowing communities to directly use and apply

⁴³ http://www.epa.gov/sites/production/files/2015-07/documents/final_bbgsp_hia_report.pdf.

⁴⁴ <http://www.epa.gov/roe>.

⁴⁵ http://www.epa.gov/sites/production/files/2015-12/documents/110915_nescs_final_report_-_compliant_1.pdf.

EnviroAtlas. For example, EPA used EnviroAtlas to map river impacts as part of efforts in the Gold King mine response.

- **Success of the Small Business Innovation Research (SBIR) program** – The following are two examples of how small businesses supported through the SBIR research program are contributing significantly to furthering EPA’s mission:
 - **GVD Corporation**, a current EPA SBIR Phase II awardee, develops environmentally friendly polymer coating solutions for consumer, industrial and medical products. Through its benign iCVD mold release coating technology⁴⁶ developed with EPA SBIR support, GVD has eliminated the use of large quantities of potentially-toxic surfactants. GVD has also helped to reduce the community burden of disease by reducing air pollution exposures resulting from manufacturing processes.
 - **PittMoss LLC**, grew into a full-fledged business with the help of an EPA SBIR grant. In April 2014, PittMoss recently received a \$600,000 investment from the ABC Reality TV Series, *Shark Tank*. The company produces an environmental friendly alternative to peat moss, which is made entirely from waste paper or old newsprints. This helps reduce the need to extract peat moss from important carbon sequestering wetlands and habitats for endangered species. This technology has the ability to significantly reduce the environmental impacts of horticulture.

FY 2017 Activities and Performance Plan:

In FY 2017, research in this area is organized into four inter-related themes:

- *Decision Support and Innovation* will use decision science, interactive social media, spatial analyses, and sustainability assessment methods to provide communities with tools to frame their decision options, outcomes and potential costs and benefits. These tools, developed in conjunction with the EPA’s program offices, along with states and local governments, will increase the capacity for community stakeholders to examine the impacts of environmental stressors and local, regional, and state planning decisions on ecosystems and human health and well-being.
- *Community Well-Being: Public Health and Ecosystem Goods and Services* will utilize the sciences of ecosystem services and human health to enable communities to assess how the natural and built environment affects the health and well-being of their residents. This research will address impacts in all communities including overburdened communities and tribes that are at risk for disproportionate environmental and health impacts.
- *Sustainable Approaches for Contaminated Sites and Materials Management* will build upon federal, regional and state experiences. This research aims to improve the efficiency and effectiveness of mechanisms that address land and groundwater contamination, including preventing and cleaning up fuel and oil spills. This research also will review and characterize innovative approaches that communities can use to: (1) reduce new sources of contamination; (2) enable recovery of energy, materials, and nutrients from waste; (3) enable brownfields sites to be put to new, economically productive uses that benefit communities; and (4) apply waste

⁴⁶ www.epa.gov/sites/production/files/2015-07/documents/gvd-safer-coating.pdf.

management and contaminated sediments remediation technologies in specific geographic locations.

- *Integrated Solutions for Sustainable Outcomes* research will develop methods and data that will allow communities to consider the full costs and benefits of their decisions. For example, SHC will review and characterize systems modeling approaches that communities can use to account for the linkage among waste and materials management, building codes and zoning for land use planning, transportation options, and provision of infrastructure, including water and energy.

As an integrated demonstration of these themes, the EPA will continue working with community decision-makers in Durham, NC to provide them with tools to account for the full cost of alternative policy and management approaches. Upon completion of a preliminary project in 2016, SHC will continue to work with these decision makers in an advisory role as they persist in their use of decision-support tools. The overall goal of this research is to integrate issue-specific tools and approaches with findings from other components of the SHC research program to:

- Inform a proof of concept pilot study in Durham to incorporate the tools described above; and
- Create a framework that expands on the successes of the Durham pilot to assist other communities in their efforts to achieve a more socio-economically and environmentally responsible state.

In FY 2017, the SHC research program also will continue to invest resources in ongoing research to develop models, databases, metrics and other decision-support tools that will empower communities to make decisions regarding sustainable approaches to environmental protection. This will allow the EPA to increase its capacity to provide community based decision support tools which consider ecosystem goods and services, contaminated sites, multimedia pollutants within environmental justice communities, and the beneficial use of sustainable materials.

As examples, in FY 2017, SHC research will continue in two related areas: EnviroAtlas (EA), a geospatial analysis tool, and Ecosystem Goods and Services (EGS), sometimes called nature's benefits or natural amenities. EA will continue to develop EGS data that can be mapped and analyzed at a range of scales from the whole nation to individual communities. This full suite of geospatial indicators of ecosystem services will be available to the public by the end of FY 2016 to inform decision-making, to educate and to provide inputs for additional research. The EA is working toward calculating those indicators for 50 communities across the United States. By FY 2017, the EA will be accessible on mobile computer platforms. In addition, the Eco-Health Relationship Browser, an easy-to-use database that links EGS to health and well-being, will be integrated into the EnviroAtlas.

Additionally, in FY 2017, the EGS research effort will work across a series of case studies that include communities chosen from states along the Gulf of Mexico, in the Pacific Northwest, within the Southern Plains, in the Great Lakes region, and in Puerto Rico. These will serve as "living laboratories" that will share core research elements. These "living laboratories" will allow scientists to compare research results across communities and to develop decision support tools that address community-specific issues.

SHC research also continues to address critical issues in environmental public health. In FY 2017, SHC will continue to co-fund the Children’s Environmental Health and Disease Centers Prevention Program with the National Institute of Environmental Health Sciences. These Centers are competitively awarded to American universities. They do research designed to improve our understanding of the complex interactions between the environment, genetics, and other factors from preconception to young adulthood with the goal of preventing environmentally-related diseases such as asthma and neurodevelopmental deficits.

Performance Targets:

Measure	(HC1) Percentage of planned research products completed on time by the Sustainable and Healthy Communities research program.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			100	100	100	100	100	100	Percent
Actual			100	83	81	100			

Measure	(HC2) Percentage of planned research outputs delivered to clients, partners, and stakeholders for use in pursuing their sustainability goals.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			100	100	100	100	100	100	Percent
Actual			50	68	100	50			

These tables reflect the SHC program’s annual performance measures. The EPA uses these measures to assess our effectiveness in delivering needed products and outputs to clients (decision-makers, states, and local governments).

The EPA has established a standing subcommittee under ORD’s Board of Scientific Counselors (BOSC) for the SHC program to evaluate its performance and provide expert feedback to the agency. In addition, the program will meet regularly with both the BOSC and Science Advisory Board (SAB) over the next several years to seek their input on topics related to research program design, science quality, innovation, relevance and impact, within the context of the agency’s Strategic Plan. This includes advising the EPA on its strategic research direction as part of the review of the each program’s recently released Strategic Research Action Plan (StRAP).⁴⁷

The EPA collaborates with several science agencies and the research community to assess our research performance. For example, the EPA is partnering with the National Institutes of Health, National Science Foundation, Department of Energy, and Department of Agriculture. The EPA also works with the White House’s Office of Science and Technology Policy and supports the interagency Science and Technology in America’s Reinvestment–Measuring the Effect of Research on Innovation, Competitiveness and Science (STAR METRICS) effort.⁴⁸

⁴⁷ EPA Strategic Research Action Plans, <http://www.epa.gov/research/strategic-research-action-plans-2016-2019>.

⁴⁸ STAR METRICS, <https://www.starmetrics.nih.gov/>.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$2,204.0 / +1.2 FTE) This change reflects an increase of \$2,207.0 to fixed and other costs for the agency recalculation of base workforce costs due to adjustments in salary, working capital fund, and benefits and a net decrease of \$3.0 and increase of 1.2 FTE from essential research program support.
- (-\$3,399.0) This program change reduces resources for examining the impacts of environmental stressors and cumulative exposures on communities, which is essential in enabling community decision makers in protecting and improving human health and well-being. This reduction also reduces the EPA's research efforts in investigating the sustainability and health of aging populations and communities.
- (-\$1,055.0) This program change reduces resources for the EPA's research on understanding exposures and stressors for disproportionately impacted communities including children. This reduction also impacts research on the technologies for cleaning up contaminated groundwater and surrounding affected communities, as well as research on the effectiveness of contaminated sediment remediation alternatives.
- (-\$1,623.0) This program reduction will inhibit developments of the EPA's EnviroAtlas, impact work with the ECOTOX database, and scale back EPA's efforts on the Report on the Environment. This reduction also affects delivery of decision support tools that facilitate community engagement and aspects of bioavailability and community-based research linking ecological, neighborhood and cumulative risk stressors on environmental health. This reduction also delays research on nitrogen management.
- (-\$100.0) This program change will reduce support for the People, Prosperity, Planet (P3) program that catalyzes sustainable, innovative research among college students.
- (-\$1,675.0) This program change will reduce research associated with assisting communities in critical decision making about materials management and solid waste, land use, and the built environment that integrates social, economic, health, and ecologic outcomes.

Statutory Authority:

Clean Air Act (CAA); Clean Water Act (CWA); Clinger Cohen Act; Coastal Zone Management Act (CZMA); Environmental Research, Development & Demonstration Authorization Act (ERDDAA); Endangered Species Act (ESA); Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Food Quality and Protection Act (FQPA); Intergovernmental Cooperation Act; Marine Protection, Research and Sanctuaries Act; National Environmental Education Act; National Environmental Policy Act (NEPA); Toxic Substances Control Act, §§ 10, 306; Water Resources Research Act.

Program Area: Research: Chemical Safety and Sustainability

Research: Chemical Safety and Sustainability

Program Area: Research: Chemical Safety and Sustainability
Goal: Ensuring the Safety of Chemicals and Preventing Pollution
Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Science & Technology</i>	<i>\$91,059.4</i>	<i>\$89,328.0</i>	<i>\$94,962.0</i>	<i>\$5,634.0</i>
Total Budget Authority / Obligations	\$91,059.4	\$89,328.0	\$94,962.0	\$5,634.0
Total Workyears	278.4	306.4	306.8	0.4

Program Project Description:

Chemicals are a lynchpin of innovation in the American economy. Moving toward sustainable development requires designing, producing, and using chemicals in safer ways. Information and methods are needed to make better-informed, more-timely decisions about the thousands of chemicals circulating in the United States. Many of these chemicals have not been thoroughly evaluated for potential risks to human health and the environment. The EPA’s Chemical Safety for Sustainability (CSS) Research Program is designed to meet this challenge.

The CSS program strengthens the agency’s ability to evaluate and predict impacts from the use of manufactured chemicals throughout their lifecycle. The program places an increasing emphasis on making research results available and translating them into solutions and technical support for our agency partners. External stakeholders who benefit from this information include states, regions, communities, environmental and public health advocacy groups, as well as diverse industries upstream and downstream of chemical manufacturers.

Recent accomplishments include:

In FY 2015, and continuing into FY 2016, the EPA advanced the CSS research program by 1) expanding the breadth of its computational toxicology research to include more research trials that can represent the biology and health effects of interest, 2) placing more emphasis on estimating relevant exposures to individual and multiple chemicals, 3) better integrating human and ecological risk evaluations, and, most importantly, 4) enhancing the predictive capacity of the computational models and data both for evaluating the impact of existing chemicals and for selection of safer alternatives. Application of the computational toxicology research to inform selection of safer alternatives was evaluated and incorporated by the National Academies of Science (NAS) in the framework they developed and described in their 2014 report, *A Framework to Guide Selection of Chemical Alternatives*.⁴⁹

Thus far, the EPA has used its computational tools primarily to inform the agency’s chemical screening and prioritization needs, in particular in the Endocrine Disruptor Screening Program (EDSP). In June 2015, the EPA announced its plans, developed in collaboration with the National

⁴⁹ <http://www.nap.edu/catalog/18872/a-framework-to-guide-selection-of-chemical-alternatives>.

Institute of Environmental Health Sciences (NIEHS), to use high throughput screening assays and models to accelerate the implementation of the EDSP.⁵⁰ This groundbreaking collaboration among the research and policy segments of the EPA presented a key opportunity to demonstrate how emerging data and models can be applied in the specific context of the policy decision (i.e., fit for purpose), accelerating the pace of decision making. These new technology applications will allow us to screen more chemicals in less time, use fewer animals and reduce costs for taxpayers.

The EPA has requested that the NAS conduct a follow-up study to its *Toxicity Testing in the 21st Century*,⁵¹ and provide recommendations on next steps in the rapid evolution and application of these computational data, models and tools to a broader array of decisions by the EPA and other agencies. More information about this study, *Incorporating 21st Century Science into Risk-Based Evaluations*, expected to be completed in FY 2016, is available at: <http://dels.nas.edu/Study-In-Progress/Incorporating-21st-Century-Science-into-Risk/DELS-BEST-14-04>.

Strategic Partnerships

The CSS program is pursuing a paradigm shift in how existing and emerging chemicals can be evaluated for safety by focusing on building predictive capacity and agile responses. The objective of this ambitious change is to move from a knowledge-poor management posture to one that is proactive, sustainable, and fosters innovation. The CSS program relies heavily on strategic partnerships with dozens of organizations ranging from industry, academia, trade associations, other federal agencies, state government and non-governmental organizations to make this shift possible. Examples of partnerships for advancing potential applications of CSS research include the following:

- Formed in 2000, the federal National Nanotechnology Initiative (NNI) is a research and development effort working toward the shared vision of "a future in which the ability to understand and control matter at the nanoscale leads to a revolution in technology and industry that benefits society."⁵² The NNI's 20 federal partners include the EPA, the National Science Foundation, National Institutes of Health (NIH), Department of Defense, National Institute of Occupational Safety and Health, Food and Drug Administration (FDA), and United States Department of Agriculture. Under its Nanotechnology Environmental Health Implications working group (NEHI) the EPA participates in coordinated research to assess the potential human and environmental risks of nanomaterials. The NNI and NEHI advance collaboration and coordination of activities both among U.S.-based agencies and internationally with various regulatory and coordinating bodies primarily in Europe and Asia.
- Toxicity Testing in the 21st Century (Tox21) has been extremely effective for enhancing the ability to predict the safety of chemicals. The partnership pools funding, expertise, chemical research, data and screening tools from multiple federal agencies including the EPA, the National Toxicology Program/NIEHS National Center for Advancing Translational Sciences and the FDA. The EPA's contribution to Tox21 is primarily through

⁵⁰ <http://www.epa.gov/endo/#announcement>.

⁵¹ <http://dels.nas.edu/Report/Toxicity-Testing-Twenty-first/11970?bname=best>.

⁵² "About the NNI", <http://www.nano.gov/about-nni>.

ToxCast, which to date, has screened nearly 2,000 chemicals across approximately 700 assay endpoints. These results have been leveraged by the Tox21 to screen nearly 8,200 chemicals across approximately 50 endpoints. Assay endpoints used by ToxCast and Tox21 represent the potential harmful biological effects of chemical exposures. Before Tox21, these types of test data were available on fewer than 500 chemicals. Significant improvements have also been made in data access, reliability, and usability for the community of stakeholders inside and outside the EPA. All results, as well as the data and models that support those results are made freely available to the public.⁵³

Other examples of active research partnerships include: L'OREAL and Unilever, pharmaceutical companies such as Pfizer and Merck, Health Canada, European Chemicals Agency, DOW Chemical, Harvard University, and more. A complete list of the EPA's computational toxicology research partners is available at: <http://www.epa.gov/ncct/partners.html>.

FY 2017 Activities and Performance Plan:

The CSS program will continue to place overarching emphasis on the areas of computational toxicology, endocrine disrupting chemicals and emerging materials including engineered nanomaterials:

Computational Toxicology (CompTox) – FY 2017 presents an opportunity to further enhance CompTox and broaden its application to agency activities across diverse regulatory frameworks. Novel applications can add significant efficiency and effectiveness to agency operations, aid the EPA in participating in the Big Data revolution, and enhance the agency's visibility as a high performing organization. In addition to expanding the chemical screening activities beyond the current 8,000 in Tox21, opportunities in FY 2017 include:

- Exploring how ToxCast/Tox21 data can be used to develop high-throughput risk assessments, in particular for chemicals for which adequate information has not been available historically to conduct risk assessments. In addition, high throughput exposure and hazard information can be combined to develop approaches for assessing the cumulative risk of exposures to multiple chemicals, as recommended by the NAS;⁵⁴ and
- Using these technologies to look beyond human health and expand and extrapolate to novel assays that have relevance to impacts to ecological health.

These applications complement efforts of the agency's Chemical Safety and Pollution Prevention program to apply high throughput and other 21st Century exposure information to Toxic Substances Control Act (TSCA) chemical prioritization:

Endocrine Disrupting Chemicals – In FY 2017 the EPA will continue to tailor, apply and demonstrate newer computational toxicology approaches to accelerate the pace and efficiency of the EDSP. The first focus will be on screening additional chemicals for endocrine disruption through Tox21. The EPA's scientists will expand the biology analyzed to include thyroid disruption assays and to further evaluate ecological impacts of endocrine disruption. Focused case

⁵³ <http://epa.gov/ncct/toxcast/data.html>.

⁵⁴ http://www.nap.edu/openbook.php?record_id=12528.

studies will provide improved understanding of the relationship between chemical exposures and ecological and human health outcomes, including impact on the thyroid system and on the developing organism.

Emerging Materials (including Nanotechnology) – In FY 2017 the CSS program will continue to apply computational and knowledge-driven approaches to amplify the impact of its research on engineered nanomaterials and on evaluation of emerging safer chemical alternatives. Results of this research will provide guidelines for evaluating potential impacts of emerging materials from the molecular design phase throughout their lifecycle in their applications to goods and products in commerce. These research directions are in keeping with the environmental health and safety research needs identified by the National Nanotechnology Initiative described in the NNI 2011 Environmental, Health, and Safety Research Strategy.⁵⁵ Through specific case studies and in collaboration with other national programs such as the Safe and Sustainable Water Resources programs, the CSS research program will further evaluate the impact of nanomaterial exposures through their ubiquitous use in consumer products and lifecycle impacts, including discharge to wastewater.

More information about CSS can be found at <http://www.epa.gov/research/chemicalscience/>.

Performance Targets:

Measure	(CS1) Percentage of planned research products completed on time by the Chemical Safety for Sustainability research program.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			100	100	100	100	100	100	Percent
Actual			100	100	100	100			

Measure	(CS2) Percentage of planned research outputs delivered to clients and partners to improve their capability to advance the environmentally sustainable development, use, and assessment of chemicals.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			100	100	100	100	100	100	Percent
Actual			50	100	100	100			

The EPA has established a standing subcommittee under the EPA’s Board of Scientific Councilors for the CSS and the Human Health Risk Assessment (HHRA) programs to evaluate their performance and provide expert feedback to the agency. In addition, the EPA will meet regularly with both the Board of Scientific Counselors and Science Advisory Board over the next several years to seek their input on topics related to research program design, science quality, innovation, relevance and impact, within the context of the agency’s Strategic Plan. This includes advising the EPA on its strategic research direction in part of the review of the agency’s Research and Development office recently released Strategic Research Action Plans (StRAPs).⁵⁶

⁵⁵ <http://www.nano.gov/node/681>.

⁵⁶ Available here: <http://www.epa.gov/research/strategic-research-action-plans-2016-2019>.

The EPA collaborates with several science agencies and the research community to assess our research performance. For instance, the EPA is partnering with NIH, NSF, DOE, and USDA. The agency also will work with the White House's Office of Science and Technology Policy. The EPA supports the interagency Science and Technology in America's Reinvestment, Measuring the Effect of Research on Innovation, Competitiveness and Science (STAR METRICS) effort.⁵⁷

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$1,237.0 / -5.3 FTE) This change reflects an increase of \$1,819.0 to fixed and other costs for the agency recalculation of base workforce costs due to adjustments in salary, working capital fund, and benefits and a net decrease of \$582.0 and 5.3 FTE from essential research program support.
- (-\$1,462.0 / +4.4 FTE) This net program change will reduce efforts to: 1) engage academic partners in critical forward-looking research on human and ecological impacts of exposures to endocrine disrupting compounds (EDCs) through the grants program and 2) develop and incorporate EDC-relevant data and models for use by agency partners and external stakeholders. The FTE will help ensure continuity of endocrine disruptor research and mitigate to some extent these reductions to contract support.
- (+\$5,168.0 / +0.5 FTE) This program change reflects an increase that will: 1) incorporate advancements in computational chemistry to allow use of information (i.e. read-across) from chemical structures with known bioactivity to other structures with less data, in concert with growing international efforts such as the European REACH, 2) use the high throughput hazard and exposure information to begin to evaluate cumulative risk of chemical exposures, 3) expand and extrapolate to novel assays that have relevance to ecological impacts, and 4) demonstrate how the ToxCast/Tox21 data can be used to develop high-throughput risk assessments, in particular for data poor chemicals.
- (+\$691.0 / +0.8 FTE) This program change reflects an increase to provide additional contract and FTE support to ensure needs that cross research focuses, such as nanotechnology, are met. A main goal of nanotechnology research is to provide guidelines for evaluating potential impacts of nanomaterials throughout their lifecycle from design to release into the larger environment.

Statutory Authority:

Clean Air Act §§ 103, 104, 154; Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Children's Health Act; 21st Century Nanotechnology Research and Development Act; Clean Water Act, §§ 101-121; Environmental Research, Development and Demonstration Authorization Act of 1976 (ERDDAA); Federal Food, Drug, and Cosmetic Act (FFDCA); Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Food Quality Protection Act (FQPA); Intergovernmental Cooperation Act; National Environmental Policy Act (NEPA), § 102; Pollution Prevention Act (PPA); Resource Conservation and Recovery Act (RCRA); Safe Drinking Water Act (SDWA); Toxic Substances Control Act (TSCA), §§ 10, 15.

⁵⁷ STAR METRICS <https://www.starmetrics.nih.gov/>.

Human Health Risk Assessment

Program Area: Research: Chemical Safety and Sustainability

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Address Climate Change

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Science & Technology</i>	<i>\$39,071.5</i>	<i>\$37,602.0</i>	<i>\$39,259.0</i>	<i>\$1,657.0</i>
Hazardous Substance Superfund	\$2,618.7	\$2,843.0	\$2,824.0	(\$19.0)
Total Budget Authority / Obligations	\$41,690.2	\$40,445.0	\$42,083.0	\$1,638.0
Total Workyears	166.3	178.9	177.2	-1.7

Program Project Description:

The EPA's Human Health Risk Assessment (HHRA) research program meets the risk assessment needs of the EPA and other stakeholders by characterizing the potential human health and environmental impacts of exposures to individual chemicals and mixtures. Scientists in the HHRA program synthesize scientific information and advance applications to serve as the scientific foundation for various risk assessments; including modernizing methods and models or incorporating new data and computational tools.⁵⁸ These peer-reviewed assessments span the range from state-of-the-science human health assessments to screening level values that help to focus monitoring and future evaluations. They provide a sound scientific basis for the myriad of daily EPA risk management decisions (e.g., revising or retaining national standard setting and regulations, site-specific cleanups). The HHRA program's assessment work supports the EPA's efforts to take action on toxics and chemical safety in communities by providing a sound scientific understanding of the possible implications of environmental exposure and by providing tools that help the agency predict and reduce risk. The HHRA research program is comprised of:

- ***Integrated Risk Information System (IRIS)***: Prepares health-hazard and dose-response assessments on environmental pollutants of major relevance to the EPA's regulatory mandates. IRIS provides qualitative and quantitative assessments of both cancer and non-cancer risks developed with many opportunities for public involvement and rigorous peer review by the Chemical Assessment Advisory Committee (CAAC) of the agency's Science Advisory Board (SAB). These assessments provide the scientific foundation for the agency's risk assessment and risk management decisions.⁵⁹ The IRIS database has hazard identifications and dose-response evaluations on several hundred chemicals. These values will help the EPA programs

⁵⁸ <http://www.epa.gov/nceawww1/hhra/index.htm>.

⁵⁹ <http://arasp.americanchemistry.com/Resources/White-Paper-Early-Scientific-Peer-Consultation-and-Stakeholder-Engagement-in-EPAs-IRIS-Assessment.pdf>.

and communities assess cumulative risk and mixtures of related chemicals to better characterize potential “real-world” exposures and risks for specific communities.

- ***Integrated Science Assessments (ISAs):*** Provides periodic review of the scientific evidence supporting decisions to retain or revise the National Ambient Air Quality Standards (NAAQS) for six criteria air pollutants (particulate matter, ozone, lead, sulfur oxides, nitrogen oxides, and carbon monoxide). ISAs provide a concise evaluation and synthesis of science necessary to inform decision-making and inform the benefit-cost analyses that support the regulations designed to allow states and local areas to meet the NAAQS.⁶⁰ The HHRA program also is developing an ISA for oxides of sulfur and oxides of nitrogen, to support decisions on the secondary NAAQS for these criteria pollutants, which present together a mixture of air pollutants affecting ecological systems. ISAs undergo rigorous external peer review by the Clean Air Scientific Advisory Committee (CASAC).⁶¹
- ***Community and Site-specific Risk:*** Develops Provisional Peer-Reviewed Toxicity Values (PPRTVs) and exposure assessment tools supporting the EPA’s clean-up decisions at contaminated Superfund and hazardous waste sites. The EPA’s scientists also provide technical support and tools to enhance the agency’s ability to make risk-based decisions on a case-specific basis, thereby reducing risks for sensitive and susceptible populations in specific communities. The cumulative risk assessment (CRA) methods are being extended to explicitly incorporate general ecological risk assessment endpoints (GEAE) to characterize ecological risk, adverse outcome pathways (AOP) across species, and to begin to consider human well-being indices. The role of epigenetics and susceptibility considerations are also being evaluated to better inform CRA methods. Exposure apportionment across different routes of exposures and receptors is anticipated to refine CRA approaches.
- ***Research to Advance Analyses and Applications:*** Provides leadership in developing and applying analytic innovations to inform IRIS, ISA, PPRTV, and other assessment activities. This ensures the translation and targeting of new data, models, and methods to increase the accuracy, efficiency, and effectiveness of a range of the EPA risk assessments. Such characterization also informs the Chemical Safety for Sustainability (CSS) research program’s development and evaluation of its tools and knowledge bases. HHRA research also is determining and characterizing how to apply high throughput and other new data streams to support risk screening and assessments, and to advance methods for dosimetry modeling to support the application of AOP and mode of action (MOA) descriptions in dose-response analysis, including informing new benefit-cost considerations. The HHRA program also develops, evaluates, and/or implements and maintains software to support new benchmark dose and other dose-response methods, the Health and Environmental Research Online (HERO) database, new approaches to identify and systematically review relevant research for hazard evaluation, and risk assessment training materials.

⁶⁰ <http://epa.gov/ttn/naaqs/standards/pb/data/20110331pbirpdraftcasac.pdf>.

⁶¹ <http://yosemite.epa.gov/sab/sabproduct.nsf/WebReportsbyYearCASAC!OpenView&Start=1&Count=800&Collapse=1#1>.

Recent accomplishments include:

- Incorporated additional opportunities for stakeholder and public engagement at various stages of the IRIS process in response to the National Research Council's (NRC's) recommendations related to improving the development of IRIS assessments. The IRIS program also formed the CAAC⁶² to improve the review of IRIS assessments, refining the focus of HHRA research to address critical challenges in risk analysis;⁶³
- The IRIS program completed the assessment of cancer and non-cancer hazard and dose-response for Libby Amphibole Asbestos in late 2015. This assessment is being used now to support actions by the EPA Region 8, the EPA's Land and Emergency Management program, and state risk assessors to address the public health emergency in Libby, Montana;
- CAAC review of external review drafts of assessments for benzo[a]pyrene, ethylene oxide, trimethylbenzenes and ammonia were discussed at public meetings of the SAB CAAC. Completed 12 Provisional Peer-reviewed Toxicity Value (PPRTV) documents to address needs and priorities of the EPA's Superfund program;
- Released the second external peer review draft and convened a Clean Air Scientific Advisory Committee (CASAC) meeting regarding the primary (health) ISA for nitrogen oxide (NOx). The final NOx ISA will be released in FY 2016 and support decisions to retain or revise the NAAQS;
- Provided on-going scientific support to the EPA's Air and Radiation program regarding reconsideration of the NAAQS for ozone⁶⁴ and lead⁶⁵ based on the 2013 ISA documents;
- Updated the exposure factors module of Expo-Box and develop a beta version of the Exposure Factors Interactive Scenarios Tool (ExpoFIRST). ExpoFIRST is a stand-alone tool-that draws from data in the EPA's Exposure Factors Handbook for quick, easy, and flexible development of human exposure scenarios by the EPA Regional Offices, Programs and communities; and
- Convened scientific workshops on critical issues and challenges in risk assessment including: a workshop on the NRC recommendations regarding IRIS enhancements and one to evaluate epigenetics and cumulative risk assessment. Workshops planned in FY 2016 will address topics including the following: advancing systematic review, methods to address temporal issues in risk assessment, and characterizing and communicating uncertainty in risk assessments.

⁶² <http://yosemite.epa.gov/sab/sabpeople.nsf/WebCommitteesSubcommittees/Chemical%20Assessment%20Advisory%20Committee>.

⁶³ <http://www.epa.gov/ncea/iris/process.htm>.

⁶⁴ <http://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=247492>.

⁶⁵ <http://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=255721>.

FY 2017 Activities and Performance Plan:

The EPA's HHRA program will continue to engage important stakeholders and the scientific community to identify and advance solutions to critical challenges and develop health hazard assessments for the highest priority chemicals. In FY 2017, the program will:

- Make continued improvements to the productivity and scientific process of the IRIS Program⁶⁶ in response to the recommendations made in reports by the National Academy of Sciences' (NAS) National Research Council (NRC).^{67,68} The NRC has acknowledged the EPA's substantial successes in this area in its most recent report "*Review of the Integrated Risk Information System (IRIS) Process*," for example, by advancing the state of the science for systematic evidence review. The HHRA program will address new recommendations as it builds on the progress that the NRC concluded has already been made;
- Complete draft chemical assessments for agency, interagency, and external peer review and post them on the IRIS website (<http://www.epa.gov/iris/index.html>), making state-of-the-science IRIS documents accessible and useful to other government agencies, industry, and the public;
- Implement and update as necessary the IRIS Handbook of Operating Procedures to document approaches, provide rationale and ensure transparency of assessments;
- Implement an IRIS Update process to update the existing IRIS database for prioritized chemicals to maintain its currency. As the premier source for hazard and dose-response information used by the EPA, the IRIS program needs to be continually updated to support confident agency decision making;
- Convene scientific workshops on critical issues and challenges in risk assessment;
- Create state-of-the-science methods for continuous evaluation of assessments of new scientific information on priority pollutants. This work is linked with the Demonstration and Evaluation work under the Chemical Safety for Sustainability research program to evaluate new evidence, such as high throughput data, for application in health risk assessments;
- Contingent on extent of revisions needed to respond to CASAC comments on first drafts, issue final documents of the ISA for health effects of sulfur oxides (SO_x) and of the ISA for the secondary (ecological/welfare) for NO_x/SO_x to support decisions to retain or revise the NAAQS for these pollutants;
- Continue to develop rapid health hazard assessments to support agency responses to emergency events such as the Deepwater Horizon oil spill and the spill of 4-methylcyclohexanemethanol (MCHM) into the Elk River near Charleston, WV, as needed.

⁶⁶ <http://www.epa.gov/iris/process.htm>.

⁶⁷ <http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=13142nical>.

⁶⁸ http://www.nap.edu/catalog.php?record_id=18764.

Responding to these types of events is a key part of the EPA’s mission to protect human health and the environment and is consistent with peer review advice;⁶⁹

- Continue to advance Cumulative Risk Assessment (CRA) methods to incorporate multiple stressors and explore the incorporation of ecological endpoints, integrating new mechanistic data such as adverse outcome pathways (AOP) across species, and factoring in human well-being indices to better support “place-based” assessments, addressing community concerns, and characterize sustainability;
- Continue development of the EPA Eco-Box, a web-based toolbox providing links to guidance documents, databases, and other relevant information for ecological risk assessors;
- Publish manuscripts and case studies on methods to combine chemical and non-chemical stressors in risk assessment, and on the role of epigenetics and susceptibility considerations;
- Develop and publish approaches to improve systematic review and evidence integration, advance the application of new data and emerging computational tools, and consider or incorporate new technologies for exposure assessment;
- Continue to improve the Health and Environmental Research Online (HERO) database which lends transparency to the assessment development process by allowing access to the data used for scientific decisions. This benefits not only the EPA, but also state and local governments, environmental and public health organizations, industry, communities, and individual citizens; and
- Conduct risk assessment training at the local, national, and international levels to increase capabilities and capacities for conduct of consistent science-based risk assessments.

Performance Targets:

Measure	(RA1) Percentage of planned research products completed on time by the Human Health Risk Assessment research program.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			100	100	100	100	100	100	Percent
Actual			100	88	80	45			

Measure	(RA2) Percentage of planned research outputs delivered to clients and partners for use in informing human health decisions.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			100	100	100	100	100	100	Percent
Actual			38	100	67	60			

⁶⁹ <http://www.epa.gov/osp/bosc/pdf/hhra1007rpt.pdf>.

Measure	(RA6) Number of regulatory decisions in which decision-makers used HHRA peer-reviewed assessments (IRIS, PPRTVs, exposure assessments and other assessments)								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target				20	20	20	20	20	Number
Actual				140	100	100			

Measure	(RA7) Annual milestone progress score for completing draft IRIS health assessments.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			50	50	40	40	40	40	Score
Actual			8	17	30	7			

Measure	(RA8) Annual progress score for finalizing IRIS health assessments.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			20	20	15	15	15	15	Score
Actual			17	8	0	5			

The table above reflects HHRA’s annual performance measures. The EPA uses these measures to assess our effectiveness in delivering needed products and outputs to clients (decision-makers, states, and local governments).

The EPA has established a standing subcommittee under the EPA’s Board of Scientific Councilors for the Chemical Safety for Sustainability area that will be utilized to evaluate the research dimensions of the HHRA program as part of its performance and provide expert feedback to the agency. In addition, the EPA will meet regularly with both the Board of Scientific Counselors and Science Advisory Board over the next several years to seek their input on topics related to research program design, science quality, innovation, relevance and impact, within the context of the agency’s Strategic Plan. This includes advising the EPA on its strategic research direction as part of the review of the agency’s Research and Development office recently released Strategic Research Action Plans (StRAPs).⁷⁰ The EPA anticipates that the IRIS portion of the HHRA Program will continue full engagement with the CAAC of the SAB in FY 2016 and that the ISA portion of the HHRA program will continue full engagement with the CASAC.

The EPA collaborates with several science agencies and the research community to assess our research performance. For instance, the EPA is partnering with the National Institutes of Health, the National Science Foundation, the DOE, the USDA, and the White House’s Office of Science and Technology Policy to participate in the interagency group that reviews IRIS assessments. The EPA supports the interagency Science and Technology in America’s Reinvestment—Measuring the Effect of Research on Innovation, Competitiveness and Science (STAR METRICS) effort.⁷¹

⁷⁰ EPA Strategic Research Action Plans, <http://www.epa.gov/research/strategic-research-action-plans-2016-2019>.

⁷¹ STAR METRICS, <https://www.starmetrics.nih.gov/>.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$2,214.0 / -1.7 FTE) This change reflects an increase of \$2,497.0 to fixed and other costs for the agency recalculation of base workforce costs due to adjustments in salary, working capital fund, and benefits and a net decrease of \$283.0 and 1.7 FTE from essential research program support.
- (-\$557.0) This program change reflects a reduction to state-of-science workshops on major risk assessment methodology issues. Reduced resources also will impact web-based software and support tools.

Statutory Authority:

CAA Amendments, 42 U.S.C. 7403 et seq. - Sections 103, 108, 109, and 112; CERCLA (Superfund, 1980) Section 209(a) of Public Law 99-499; CWA Title I, Sec. 101(a)(6) 33 U.S.C. 1254 – Sec 104 (a) and (c) and Sec. 105; ERDDA 33 U.S.C. 1251 – Section 2(a); FIFRA (7 U.S.C. s/s 136 et seq. (1996), as amended), Sec. 3(c)(2)(A); FQPA PL 104-170; SDWA (1996) 42 U.S.C. Section 300j-18; TSCA (Public Law 94-469): 15 U.S.C. s/s 2601 et seq. (1976), Sec. 4(b)(1)(B), Sec. 4(b)(2)(B).

Program Area: Water: Human Health Protection

Drinking Water Programs

Program Area: Water: Human Health Protection

Goal: Protecting America's Waters

Objective(s): Protect Human Health

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$97,916.7	\$96,525.0	\$108,662.0	\$12,137.0
<i>Science & Technology</i>	<i>\$3,487.4</i>	<i>\$3,519.0</i>	<i>\$3,923.0</i>	<i>\$404.0</i>
Total Budget Authority / Obligations	\$101,404.1	\$100,044.0	\$112,585.0	\$12,541.0
Total Workyears	501.5	522.7	522.7	0.0

Program Project Description:

This program supports drinking water programs through the Technical Support Center (TSC), which utilizes the latest engineering and scientific data (including treatment technology information) to strengthen the nation's drinking water program. The TSC also:

- Develops and implements regulations to support national occurrence surveys and assists in the assessment of the contaminant occurrence data resulting from those surveys;
- Develops and evaluates leading edge monitoring approaches and analytical methods, including assessing data provided by others to demonstrate the effectiveness of new/alternate analytical methods;
- Trains regional and state certification officers, develops guidelines for the drinking water laboratory certification program, and conducts Quality Systems Assessments of Regional Drinking Water Programs;
- Works with the EPA Regional Offices and states to help drinking water utilities better understand their treatment and distribution systems and implement improvements to optimize performance; and
- Provides other technical support to develop and implement National Primary Drinking Water Regulations (NPDWRs). The TSC also provides technical assistance to states, tribes, and drinking water systems in support of the EPA regional and state drinking water programs.^{72,73}

⁷² For additional program information see <http://www.epa.gov/safewater>

⁷³ For additional program information see

<https://www.cfda.gov/index?s=program&mode=form&tab=step1&id=63cecb6866ee587d2bfafc7b77c3563c&cck=1&au=&ck>

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA's Drinking Water Technical Support Center will carry out the following activities:

- Lead the development, revision, evaluation, and approval of chemical and microbiological analytical methods for compliance monitoring and for occurrence data gathering to ensure protection of public health from contaminants in drinking water (*e.g.*, toxins resulting from harmful algal blooms);
- Respond to technical questions regarding the entire range of NPDWRs;
- Implement the EPA's Drinking Water Laboratory Certification Program. This program sets standards and establishes methods for the EPA, state, and privately-owned laboratories that analyze drinking water samples. Through this program, the EPA will conduct three regional program reviews during FY 2017. The EPA visits each Regional Office on a triennial basis and evaluates their oversight of the state laboratories and the state laboratory certification programs within their purview. The EPA will deliver three certification officer training courses [(1) chemistry, (2) microbiology, and (3) cryptosporidium)] for state and regional representatives to ensure the quality of the analytical results;
- Support small drinking water systems' efforts to optimize their treatment technology under the drinking water Area Wide Optimization Program (AWOP). AWOP is a highly successful technical/compliance assistance and training program that enhances the ability of small systems to meet existing and future microbial, disinfectant, and disinfection byproduct standards, and also addresses distribution system integrity issues. During FY 2017, the EPA expects to continue to work with at least four Regional Offices and 21 states and tribes to facilitate the transfer of specific skills and build upon other drinking water implementation program efforts to reduce health based compliance challenges; and
- Consider and address public comments, and make necessary changes to the fourth Unregulated Contaminant Monitoring Rule (UCMR 4) as appropriate. The UCMR 4 was proposed in December 2015, and will address the collection of occurrence and exposure data for up to 30 unregulated, suspected drinking water contaminants as part of a federal direct implementation regulatory program coordinated by TSC. The data collected through the five-year UCMR cycles are used in the analysis and review of contaminant occurrence and public exposure to support the agency's determination of whether to establish a health-based standard to protect public health. The final rule will be promulgated in FY 2017 and monitoring for UCMR 4 will occur from 2018-2020. UCMR 4 pre-implementation will take place in FY 2017 as the agency fully prepares for the start of monitoring. These activities involve extensive coordination with states to carry out the agency's monitoring and reporting responsibilities. Key activities for the EPA include establishing sufficient EPA-approved laboratory capacity, refining State Monitoring Plans (SMPs), troubleshooting and technical assistance, and management of all aspects of small system monitoring. The EPA is required by Section 1452(o) of the Safe Drinking Water Act (SDWA), as amended, to annually set aside \$2.0 million of Drinking Water State

Revolving Funds to pay the costs of small system monitoring and sample analysis for contaminants for each cycle of the UCMR.

Performance Targets:

Measure	(aa) Percent of population served by CWSs that will receive drinking water that meets all applicable health-based drinking water standards through approaches including effective treatment and source water protection.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	90	91	91	92	92	92	92	92	Population
Actual	92	93.2	94.7	92	93	91			

Measure	(apm) Percent of community water systems that meets all applicable health-based standards through approaches including effective treatment and source water protection.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	90	90	90	90	90	90	90	90	Systems
Actual	89.6	90.7	91	91	91	90			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$269.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$135.0) This program change reflects an increase to support on-site technical assistance to states and utilities in dealing with toxic algal blooms and high levels of lead.

Statutory Authority:

Safe Drinking Water Act (SDWA).

Program Area: Congressional Priorities

Water Quality Research and Support Grants

Program Area: Congressional Priorities

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Promote Sustainable and Livable Communities

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems; Protect Human Health

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Improve Air Quality

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Science & Technology</i>	<i>\$4,119.0</i>	<i>\$14,100.0</i>	<i>\$0.0</i>	<i>(\$14,100.0)</i>
Environmental Program & Management	\$12,700.0	\$12,700.0	\$0.0	(\$12,700.0)
Total Budget Authority / Obligations	\$16,819.0	\$26,800.0	\$0.0	(\$26,800.0)
Total Workyears	0.0	4.0	0.0	-4.0

Program Project Description:

In FY 2016, Congress appropriated \$14.1 million in the Science and Technology appropriation. \$4.1 million was to fund high priority water quality and water availability research. The EPA was instructed to award grants on a competitive basis, independent of the STAR program, and give priority to not-for-profit organizations that: conduct activities that are national in scope; can provide a twenty-five percent match, including in-kind contributions; and often partner with the agency. \$3.0 million was to further research on oil and gas development in the Appalachian Basin. \$7.0 million was to fund certification and compliance activities related to vehicle and engine emissions.

FY 2017 Activities and Performance Plan:

The EPA is not requesting funds for this program in FY 2017.

Performance Targets:

There are no performance targets for this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$622.0 / - 4.0 FTE) This reflects a realignment to further support testing at the agency's National Vehicle and Fuel Emissions Laboratory. This results in a decrease of 4.0 FTE with associated payroll of \$622.0. Resources have been realigned to the Federal Vehicle and Fuels Standards and Certification program.

- (-\$13,478.0) This program change reflects that the EPA is not requesting extramural funding under this program in FY 2017.

Statutory Authority:

CAA 42 U.S.C. 7401 et seq. Title 1, Part A – Sec. 103 (a) and (d) and Sec. 104 (c); CAA 42 U.S.C. 7402(b) Section 102; CAA 42 U.S.C. 7403(b)(2) Section 103(b)(2); Clinger Cohen Act, 40 U.S.C. 11318; CERCLA (Superfund, 1980) Section 209(a) of Public Law 99-499; Children’s Health Act; CWA, Sec. 101 - 121; CWPPRA; CZARA; CZMA 16 U.S.C. 1451 - Section 302; Economy Act, 31 U.S.C. 1535; EISA, Title II Subtitle B; ERDDA, 33 U.S.C. 1251 – Section 2(a); ESA, 16 U.S.C. 1531 - Section 2; FFDCA, 21 U.S.C. Sec. 346; FIFRA (7 U.S.C. s/s 136 et seq. (1996), as amended), Sec. 3(c)(2)(A); FQPA PL 104-170; Intergovernmental Cooperation Act, 31 U.S.C. 6502; MPRSA Sec. 203, 33 U.S.C. 1443; NAWCA; NCPA; National Environmental Education Act, 20 U.S.C. 5503(b)(3) and (b)(11); NEPA of 1969, Section 102; NISA; ODBA Title II; PPA, 42 U.S.C. 13103; RCRA; SDWA (1996) 42 U.S.C. Section 300j-18; SDWA Part E, Sec. 1442 (a)(1); TSCA, Section 10, 15, 26, U.S.C. 2609; USGCRA 15 U.S.C. 2921; WRDA; WRRRA; and WWWQA.

**Environmental Protection Agency
2017 Annual Performance Plan and Congressional Justification**

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**Environmental Protection Agency
FY 2017 Annual Performance Plan and Congressional Justification**

**APPROPRIATION: Environmental Program & Management
Resource Summary Table
(Dollars in Thousands)**

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management				
Budget Authority	\$2,631,415.9	\$2,635,279.0	\$2,852,893.0	\$217,614.0
Total Workyears	9,234.7	9,759.7	9,790.6	30.9

Bill Language: Environmental Programs and Management

For environmental programs and management, including necessary expenses, not otherwise provided for, for personnel and related costs and travel expenses; hire of passenger motor vehicles; hire, maintenance, and operation of aircraft; purchase of reprints; library memberships in societies or associations which issue publications to members only or at a price to members lower than to subscribers who are not members; administrative costs of the brownfields program under the Small Business Liability Relief and Brownfields Revitalization Act of 2002; and not to exceed \$9,000 for official reception and representation expenses, \$2,852,893,000, to remain available until September 30, 2018. (Department of the Interior, Environment, and Related Agencies Appropriations Act, 2016.)

**Program Projects in EPM
(Dollars in Thousands)**

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Clean Air and Climate				
Clean Air Allowance Trading Programs	\$20,374.3	\$16,143.0	\$18,807.0	\$2,664.0
Climate Protection Program	\$85,276.8	\$95,436.0	\$107,761.0	\$12,325.0
Federal Stationary Source Regulations	\$25,647.9	\$22,943.0	\$37,893.0	\$14,950.0
Federal Support for Air Quality Management	\$122,762.3	\$124,743.0	\$162,374.0	\$37,631.0
Stratospheric Ozone: Domestic Programs	\$5,675.3	\$4,915.0	\$5,082.0	\$167.0
Stratospheric Ozone: Multilateral Fund	\$8,913.0	\$8,928.0	\$9,057.0	\$129.0
Subtotal, Clean Air and Climate	\$268,649.6	\$273,108.0	\$340,974.0	\$67,866.0
Indoor Air and Radiation				
Indoor Air: Radon Program	\$2,946.8	\$2,910.0	\$3,413.0	\$503.0
Radiation: Protection	\$8,167.4	\$8,443.0	\$8,975.0	\$532.0
Radiation: Response Preparedness	\$2,535.7	\$2,550.0	\$3,333.0	\$783.0

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Reduce Risks from Indoor Air	\$16,607.2	\$13,733.0	\$14,187.0	\$454.0
Subtotal, Indoor Air and Radiation	\$30,257.1	\$27,636.0	\$29,908.0	\$2,272.0
Brownfields				
Brownfields	\$25,055.0	\$25,593.0	\$25,906.0	\$313.0
Compliance				
Compliance Monitoring	\$103,440.4	\$101,665.0	\$111,270.0	\$9,605.0
Enforcement				
Civil Enforcement	\$169,963.4	\$171,377.0	\$182,497.0	\$11,120.0
Criminal Enforcement	\$47,853.0	\$46,313.0	\$52,572.0	\$6,259.0
Environmental Justice	\$7,123.5	\$6,737.0	\$15,291.0	\$8,554.0
NEPA Implementation	\$15,586.2	\$16,210.0	\$17,758.0	\$1,548.0
Subtotal, Enforcement	\$240,526.1	\$240,637.0	\$268,118.0	\$27,481.0
Geographic Programs				
Geographic Program: Chesapeake Bay	\$86,722.6	\$73,000.0	\$70,000.0	(\$3,000.0)
Geographic Program: Gulf of Mexico	\$2,799.2	\$4,482.0	\$3,983.0	(\$499.0)
Geographic Program: Lake Champlain	\$4,396.0	\$4,399.0	\$1,399.0	(\$3,000.0)
Geographic Program: Long Island Sound	\$3,938.3	\$3,940.0	\$2,893.0	(\$1,047.0)
Geographic Program: Other				
Lake Pontchartrain	\$948.0	\$948.0	\$948.0	\$0.0
S.New England Estuary (SNEE)	\$4,989.8	\$5,000.0	\$5,000.0	\$0.0
Geographic Program: Other (other activities)	\$1,357.4	\$1,445.0	\$965.0	(\$480.0)
Subtotal, Geographic Program: Other	\$7,295.2	\$7,393.0	\$6,913.0	(\$480.0)
Great Lakes Restoration	\$289,507.2	\$300,000.0	\$250,000.0	(\$50,000.0)
Geographic Program: South Florida	\$1,707.8	\$1,704.0	\$1,339.0	(\$365.0)
Geographic Program: San Francisco Bay	\$9,277.4	\$4,819.0	\$4,040.0	(\$779.0)
Geographic Program: Puget Sound	\$27,904.0	\$28,000.0	\$30,034.0	\$2,034.0
Subtotal, Geographic Programs	\$433,547.7	\$427,737.0	\$370,601.0	(\$57,136.0)
Homeland Security				
Homeland Security: Communication and Information	\$3,291.5	\$3,877.0	\$4,106.0	\$229.0
Homeland Security: Critical Infrastructure Protection	\$1,147.3	\$972.0	\$1,020.0	\$48.0
Homeland Security: Protection of EPA Personnel and Infrastructure	\$5,610.7	\$5,346.0	\$6,392.0	\$1,046.0

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Subtotal, Homeland Security	\$10,049.5	\$10,195.0	\$11,518.0	\$1,323.0
Information Exchange / Outreach				
State and Local Prevention and Preparedness	\$17,942.3	\$15,318.0	\$23,735.0	\$8,417.0
TRI / Right to Know	\$14,639.3	\$13,882.0	\$14,834.0	\$952.0
Tribal - Capacity Building	\$13,871.6	\$14,385.0	\$15,502.0	\$1,117.0
Executive Management and Operations	\$46,780.2	\$47,019.0	\$49,537.0	\$2,518.0
Environmental Education	\$9,578.7	\$8,702.0	\$11,157.0	\$2,455.0
Exchange Network	\$18,395.0	\$17,016.0	\$25,466.0	\$8,450.0
Small Minority Business Assistance	\$1,686.6	\$1,670.0	\$2,015.0	\$345.0
Small Business Ombudsman	\$1,876.4	\$1,999.0	\$2,357.0	\$358.0
Children and Other Sensitive Populations: Agency Coordination	\$6,194.2	\$6,548.0	\$7,842.0	\$1,294.0
Subtotal, Information Exchange / Outreach	\$130,964.3	\$126,539.0	\$152,445.0	\$25,906.0
International Programs				
US Mexico Border	\$3,503.6	\$3,063.0	\$4,760.0	\$1,697.0
International Sources of Pollution	\$6,364.8	\$6,430.0	\$7,329.0	\$899.0
Trade and Governance	\$5,715.1	\$5,907.0	\$6,010.0	\$103.0
Subtotal, International Programs	\$15,583.5	\$15,400.0	\$18,099.0	\$2,699.0
IT / Data Management / Security				
Information Security	\$6,981.9	\$28,186.0	\$21,138.0	(\$7,048.0)
IT / Data Management	\$82,204.2	\$83,950.0	\$105,836.0	\$21,886.0
Subtotal, IT / Data Management / Security	\$89,186.1	\$112,136.0	\$126,974.0	\$14,838.0
Legal / Science / Regulatory / Economic Review				
Integrated Environmental Strategies	\$12,835.1	\$11,491.0	\$27,407.0	\$15,916.0
Administrative Law	\$4,507.4	\$4,774.0	\$4,710.0	(\$64.0)
Alternative Dispute Resolution	\$1,272.5	\$1,045.0	\$1,255.0	\$210.0
Civil Rights Program	\$10,113.3	\$10,071.0	\$12,338.0	\$2,267.0
Legal Advice: Environmental Program	\$45,980.5	\$48,565.0	\$53,021.0	\$4,456.0
Legal Advice: Support Program	\$15,046.8	\$15,480.0	\$19,327.0	\$3,847.0
Regional Science and Technology	\$2,262.1	\$1,532.0	\$2,995.0	\$1,463.0
Science Advisory Board	\$4,248.0	\$3,882.0	\$5,556.0	\$1,674.0
Regulatory/Economic-Management and Analysis	\$14,916.4	\$14,574.0	\$19,074.0	\$4,500.0
Subtotal, Legal / Science / Regulatory / Economic Review	\$111,182.1	\$111,414.0	\$145,683.0	\$34,269.0

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Operations and Administration				
Central Planning, Budgeting, and Finance	\$74,705.6	\$72,184.0	\$76,674.0	\$4,490.0
Facilities Infrastructure and Operations	\$313,026.1	\$311,540.0	\$329,281.0	\$17,741.0
Acquisition Management	\$31,443.4	\$30,464.0	\$35,298.0	\$4,834.0
Human Resources Management	\$44,408.6	\$43,267.0	\$50,630.0	\$7,363.0
Financial Assistance Grants / IAG Management	\$26,333.8	\$25,296.0	\$28,433.0	\$3,137.0
Subtotal, Operations and Administration	\$489,917.5	\$482,751.0	\$520,316.0	\$37,565.0
Pesticides Licensing				
Science Policy and Biotechnology	\$1,326.0	\$1,174.0	\$1,444.0	\$270.0
Pesticides: Protect Human Health from Pesticide Risk	\$55,204.4	\$57,809.0	\$60,372.0	\$2,563.0
Pesticides: Protect the Environment from Pesticide Risk	\$34,816.4	\$37,293.0	\$42,235.0	\$4,942.0
Pesticides: Realize the Value of Pesticide Availability	\$8,642.4	\$6,086.0	\$6,845.0	\$759.0
Subtotal, Pesticides Licensing	\$99,989.2	\$102,362.0	\$110,896.0	\$8,534.0
Resource Conservation and Recovery Act (RCRA)				
RCRA: Corrective Action	\$36,018.5	\$36,930.0	\$37,057.0	\$127.0
RCRA: Waste Management	\$58,367.4	\$59,098.0	\$62,842.0	\$3,744.0
RCRA: Waste Minimization & Recycling	\$8,066.8	\$8,849.0	\$10,809.0	\$1,960.0
Subtotal, Resource Conservation and Recovery Act (RCRA)	\$102,452.7	\$104,877.0	\$110,708.0	\$5,831.0
Toxics Risk Review and Prevention				
Endocrine Disruptors	\$11,502.9	\$7,553.0	\$4,329.0	(\$3,224.0)
Pollution Prevention Program	\$12,960.5	\$13,140.0	\$13,930.0	\$790.0
Toxic Substances: Chemical Risk Review and Reduction	\$58,721.1	\$58,554.0	\$67,186.0	\$8,632.0
Toxic Substances: Lead Risk Reduction Program	\$14,140.8	\$13,275.0	\$13,598.0	\$323.0
Subtotal, Toxics Risk Review and Prevention	\$97,325.3	\$92,522.0	\$99,043.0	\$6,521.0
Underground Storage Tanks (LUST / UST)				
LUST / UST	\$12,036.0	\$11,295.0	\$11,612.0	\$317.0
Water: Ecosystems				
National Estuary Program / Coastal Waterways	\$27,528.5	\$26,723.0	\$27,191.0	\$468.0
Wetlands	\$20,920.3	\$21,065.0	\$23,668.0	\$2,603.0

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Subtotal, Water: Ecosystems	\$48,448.8	\$47,788.0	\$50,859.0	\$3,071.0
Water: Human Health Protection				
Beach / Fish Programs	\$2,412.4	\$1,982.0	\$775.0	(\$1,207.0)
Drinking Water Programs	\$97,916.7	\$96,525.0	\$108,662.0	\$12,137.0
Subtotal, Water: Human Health Protection	\$100,329.1	\$98,507.0	\$109,437.0	\$10,930.0
Water Quality Protection				
Marine Pollution	\$10,363.5	\$10,161.0	\$10,313.0	\$152.0
Surface Water Protection	\$199,425.7	\$200,256.0	\$228,213.0	\$27,957.0
Subtotal, Water Quality Protection	\$209,789.2	\$210,417.0	\$238,526.0	\$28,109.0
Congressional Priorities				
Water Quality Research and Support Grants	\$12,700.0	\$12,700.0	\$0.0	(\$12,700.0)
Subtotal, Water Quality Research and Support Grants	\$12,700.0	\$12,700.0	\$0.0	(\$12,700.0)
TOTAL, EPA	\$2,631,429.2	\$2,635,279.0	\$2,852,893.0	\$217,614.0

Program Area: Clean Air and Climate

Clean Air Allowance Trading Programs

Program Area: Clean Air and Climate

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Improve Air Quality

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$20,374.3	\$16,143.0	\$18,807.0	\$2,664.0
Science & Technology	\$8,593.0	\$7,808.0	\$7,808.0	\$0.0
Total Budget Authority / Obligations	\$28,967.3	\$23,951.0	\$26,615.0	\$2,664.0
Total Workyears	75.4	71.4	71.4	0.0

Program Project Description:

The Acid Rain Program, established under Title IV of the 1990 Clean Air Act Amendments (CAAA),¹ requires major reductions in sulfur dioxide (SO₂) and nitrogen oxides (NO_x) emissions from the U.S. electric power generation industry. The program continues to be recognized as a model for flexible and effective air pollution regulation both in this country and abroad. The SO₂ program uses a market-based approach with tradable units called “allowances” (one allowance authorizes the emission of one ton of SO₂ in a given or later year). The authorizing legislation sets a permanent cap on the total amount of SO₂ that may be emitted annually by affected electric generating units (EGUs) in the contiguous United States. The program was phased in, with the final SO₂ cap beginning in 2010 set at 8.95 million tons, a level approximately one-half of the amount that these sources emitted in 1980.

Reducing emissions of SO₂ and NO_x continues to be an important component of the EPA's strategy for improving air quality. SO₂ and NO_x are the key pollutants in the formation of acid deposition (or “acid rain”), which contributes to acidification of lakes and streams and impairs their ability to support fish and other aquatic life. The EPA’s health studies and ecological assessments, analyses by the Interagency National Acid Precipitation Assessment Program (NAPAP),² and data from long-term monitoring networks all indicate that further reductions in SO₂ and NO_x emissions are necessary to allow sensitive forests and aquatic ecosystems to recover from acidification.

SO₂ also is a precursor for fine particulate matter (PM_{2.5}) formation, while NO_x is a precursor for both PM_{2.5} and ground-level ozone formation. Researchers have associated PM_{2.5} and ozone exposure with adverse health effects in numerous toxicological, clinical, and epidemiological

¹ Clean Air Act Amendments of 1990, Pub. L. No. 101-549, sec. 401, §§ 401-416, 104 Stat. 2399, 2584-2631 (codified at 42 U.S.C. §§ 7651-7651o) (Acid Deposition Control).

² *National Acid Precipitation Assessment Program Report to Congress 2011: An Integrated Assessment*. 2011. <http://ny.water.usgs.gov>.

studies.^{3,4} Lowering exposure to PM_{2.5} and ozone therefore contributes to significant human health benefits, including avoided mortality and morbidity. In addition, reducing SO₂ and NO_x emissions also results in welfare improvements, including surface water quality benefits through lower deposition of acid compounds and nutrients, increased visibility, and reduced climate impacts.⁵

The program measures, quality assures, and tracks SO₂, NO_x, and, pursuant to Section 821 of the 1990 CAAA,⁶ carbon dioxide (CO₂) emissions from over 3,650 affected EGUs. The program conducts electronic and field audits and certifies and periodically recertifies emission monitors. Allowance transfers for SO₂ and NO_x are recorded in electronic tracking systems and the allowances held are reconciled against the emissions reported to determine compliance for every affected facility. The Acid Rain Program has maintained near-perfect (e.g., over 99%) compliance every year. The implementing regulations require that highly accurate continuous emissions monitoring systems (CEMS), equivalent direct measurement, or approved alternate methods be used for measuring and electronic reporting of source emissions.

The EPA's Acid Rain Program allows the owners and operators of affected sources to select among different methods of compliance so the required emission reductions are achieved at the lowest cost (both to industry and government). To achieve this goal, the program employs results-oriented market-based and traditional approaches for controlling emissions, providing flexibility in the methods available to achieve the required performance standards and emission reductions. As one example of the program's flexible approach, owners and operators can purchase allowances, install scrubbers, or switch the coal they are using to reduce SO₂ emissions at affected units.

In 2014, total SO₂ emissions from EGUs subject to the Acid Rain Program were 3.1 million tons, or approximately one-third of the statutory nationwide emissions cap. Total NO_x emissions were 1.6 million tons in 2014, reflecting a reduction of over 6 million tons from projected 2000 NO_x levels absent the Acid Rain Program, exceeding the program's total targeted reduction of 2 million tons. Despite these achievements, recent assessments show that the program's environmental objective to improve ecosystems in acid-sensitive regions of the United States cannot be attained without further reductions in SO₂ and NO_x, the key pollutants involved in the formation of acid rain.⁷ These assessments also show that additional reductions in these emissions are needed for many areas to achieve and maintain health-based air quality standards for ozone and PM_{2.5}.

³ U.S. Environmental Protection Agency (U.S. EPA). 2009. Integrated Science Assessment for Particulate Matter (Final Report). EPA/600/R-08-139F. National Center for Environmental Assessment – RTP Division. December. Available on the Internet at <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=216546>. Also, U.S. EPA. Provisional Assessment of recent Studies

⁴ U.S. Environmental Protection Agency (U.S. EPA). 2013. Integrated Science Assessment for Ozone and Related Photochemical Oxidants. EPA/600/R-10/076F. Research Triangle Park, NC: U.S. EPA. February. Available on the Internet at http://oaspub.epa.gov/eims/eimscomm.getfile?p_download_id=511347.

⁵ U.S. Environmental Protection Agency (U.S. EPA). 2008. Integrated Science Assessment for Oxides of Nitrogen and Sulfur – Ecological Criteria National (Final Report). National Center for Environmental Assessment, Research Triangle Park, NC. EPA/600/R-08/139. December. Available on the Internet at <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=201485>.

⁶ Clean Air Act Amendments of 1990, Pub. L. No. 101-549, sec. 821, 104 Stat. 2399, 2699 (reprinted at 42 U.S.C. § 7651k note) (Information Gathering on Greenhouse Gases Contributing to Global Climate Change).

⁷ *National Acid Precipitation Assessment Program Report to Congress 2011: An Integrated Assessment*. op cit.

To help attain the National Ambient Air Quality Standards (NAAQS) for ozone, at the request of the affected states, in 1998 the EPA began administering the Ozone Transport Commission NO_x Budget Program (NBP), a regional cap-and-trade program established by nine states and the District of Columbia for reducing NO_x emissions and transported ozone in the eastern United States. These jurisdictions initiated their own regional NO_x allowance trading program in order to extend the compliance flexibility and control cost-effectiveness achieved under the Title IV SO₂ Acid Rain Program into their State Implementation Plans (SIPs) for meeting their Title I NAAQS compliance obligations. Subsequently, the EPA issued the NO_x SIP Call and established the NO_x Budget Trading Program (NBTP), which replaced the NBP starting in 2003. The NBTP added 12 new states to the NBP and doubled the number of sources covered. The EPA then issued the Clean Air Interstate Rule (CAIR) under which the NBTP transitioned into the CAIR seasonal NO_x program for control of transported ozone pollution and summer NO_x emissions starting in 2009.

In July 2011, the EPA issued the Cross-State Air Pollution Rule (CSAPR) to replace CAIR. CSAPR, which took effect on January 1, 2015,⁸ requires 28 states to limit their state-wide emissions of SO₂ and/or NO_x in order to reduce or eliminate the states' contributions to fine particulate matter and/or ground-level ozone pollution in other states. The emissions limitations are defined in terms of maximum state-wide "budgets" for emissions of annual SO₂, annual NO_x, and/or ozone-season NO_x from each state's large EGUs.

The National Academy of Sciences⁹ has commended the EPA on its Acid Rain Accountability Program, which relies on the Clean Air Status and Trends Network (CASTNET) for monitoring deposition, ambient sulfate and nitrate concentrations, and other air quality indicators. The EPA uses the Temporally Integrated Monitoring of Ecosystems (TIME) and Long-Term Monitoring (LTM) programs for assessing how water bodies and aquatic ecosystems are responding to reductions in sulfur and nitrogen emissions. The Acid Rain Accountability Program issues comprehensive annual reports on compliance and environmental results from implementation of the Acid Rain Program and related programs. These reports not only track progress in reducing SO₂ and NO_x emissions from the affected sources, but also assess the impacts of these reductions on acid deposition, air quality (*e.g.*, ozone levels), surface water acidity, forest health, and other environmental indicators. For more information, see www.epa.gov/airmarkets/progress/index.html

FY 2017 Activities and Performance Plan:

In FY 2017, the program will measure, quality assure, and track emissions for SO₂, NO_x, CO₂, and other pollutants, including air toxics, discharged to the atmosphere by approximately 4,500 fossil fuel-fired EGUs. The program will conduct audits, certify emission monitors, and report on the progress of these programs in achieving performance targets and environmental

⁸ CSAPR was stayed and then vacated by the D.C. Circuit Court of Appeals, but the Supreme Court reversed the D.C. Circuit's opinion vacating the rule, *EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584 (2014), and the D.C. Circuit subsequently lifted the stay. In July 2015, the D.C. Circuit issued a decision on remaining legal challenges to CSAPR, upholding the rule in most respects but remanding without vacatur several state budgets to the EPA for reconsideration. *EME Homer City Generation, L.P. v. EPA*, No. 11-1302, 2015 U.S. App. Lexis 13039 (D.C. Cir. July 28, 2015). The remanded budgets concern emissions during Phase 2 of the program, which begins in 2017. The EPA will address the remand in future actions.

⁹ National Academy of Sciences Report: *Air Quality Management in the United States*. 2004. www.nap.edu/catalog/10728.html.

objectives. SO₂ and NO_x allowance transfers will be recorded in electronic tracking systems and the allowances held will be reconciled against emissions to ensure compliance for all affected sources in the Acid Rain Program and CSAPR programs. The FY 2017 performance target maintains SO₂ emissions below 5.00 million tons, reflecting the implementation of the CSAPR programs in the eastern states in combination with the Acid Rain Program.

In FY 2017, the program will support the Carbon Pollution Standards for new, modified, and reconstructed power plants, the Clean Power Plan for existing power plants,¹⁰ and the President's Climate Action Plan through emissions monitoring, data analysis, and regulatory support. The program's emissions monitoring information will be used to inform regulatory implementation, as well as other analyses related to the power sector for use by policymakers and stakeholders. Economic modeling tools and emissions projections data will be used to analyze, inform, and forecast effects of potential future policy scenarios. In addition, technical expertise and data from the program will be used in support of regulatory development and assistance to stakeholders, particularly states, related to state plans. Implementation of the Clean Power Plan will require tracking systems to issue, manage, and use tradable allowances and credits for the purpose of complying with state programs. The program will be responsive to requests from states to use its considerable experience and expertise to develop and deploy a tracking system as needed to support state implementation.

In FY 2017, the program will modify, expand and improve the EPA-administered emissions monitoring and reporting system supporting required CEMS¹¹ to incorporate, process and quality assure additional data for power plants pursuant to the Mercury and Air Toxics Standards (MATS) Rule¹² (e.g., mercury monitor certification, mercury emissions, pertinent operating data, etc.) and the Carbon Pollution Standards for new, modified, and reconstructed power plants,¹³ while also operating and maintaining the system for emissions monitoring and reporting by clean air allowance trading programs.

The program also will work with states to develop emission reduction programs to comply with CAA Section 110(a)(2)(D) requirements. This includes finalizing a regulation proposed on November 16, 2015 to reduce the interstate transport of NO_x emissions to address upwind states' significant contribution to nonattainment and interference with maintenance of the 2008 ozone NAAQS in downwind states. As the EPA finalizes that proposed rule, the agency will work with states to create flexible, cost-effective approaches to address interstate transport of air pollutants, as well as to assess the feasibility of air pollution emission controls.

The program also is responsible for implementing U.S. commitments under the U.S. Canada Air Quality Agreement (Acid Rain Annex) of 1991 and the Ozone Annex of 2000 to reduce and maintain lower SO₂ and NO_x emissions to improve air quality and reduce acid deposition in the transboundary region.

¹⁰ See <http://www2.epa.gov/carbon-pollution-standards/regulatory-actions>.

¹¹ 40 C.F.R. pt. 75 (Continuous Emission Monitoring).

¹² 40 C.F.R. pt. 63, subpt. UUUUU (National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units).

¹³ See <http://www2.epa.gov/carbon-pollution-standards/regulatory-actions>.

Performance Targets:

Measure	(A01) Annual emissions of sulfur dioxide (SO2) from electric power generation sources.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	8,450,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	5,000,000	5,000,000	Tons Emitted
Actual	5,166,000	4,544,000	3,319,000	3,210,365	3,122,921	Data Avail 4/2016			

Progress was stronger than anticipated in FY 2014, with actual emissions of SO₂ from electric power generation sources of 3,122,921 tons, compared with a target of 6 million tons. The FY 2017 target is 5 million tons. Actual emissions have consistently been lower than the targets due to a number of factors including: 1) the economics of power sector fuel prices currently favor natural gas over coal, 2) electricity generation fell starting in 2007 and has been relatively flat in recent years, but is expected to grow over time, and, 3) some implementation strategies that are currently being used to comply with other environmental regulations also reduce SO₂ emissions.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$615.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$2,049.0) This program change reflects an increase in funding to support, as appropriate, modifications, improvements, and expansion of the foundational EPA administered emissions monitoring, reporting, and tracking systems for tradable allowances and credits.

Statutory Authority:

Clean Air Act.

Climate Protection Program

Program Area: Clean Air and Climate

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Address Climate Change

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$85,276.8	\$95,436.0	\$107,761.0	\$12,325.0
Science & Technology	\$7,353.0	\$8,018.0	\$8,127.0	\$109.0
Total Budget Authority / Obligations	\$92,629.8	\$103,454.0	\$115,888.0	\$12,434.0
Total Workyears	214.1	224.1	237.1	13.0

Program Project Description:

The EPA’s Climate Protection Program promotes efforts to reduce greenhouse gas (GHG) emissions, including voluntary partnerships with key industries, businesses and other organizations; developing and delivering tools to help states and communities implement clean energy policies and programs; reporting, verification and publication of GHG emissions data; advancing our understanding of climate science and impacts; economic modeling and policy analysis to support improved understanding of opportunities for GHG reductions; and supporting UNFCCC post-Paris transparency and capacity building. These programs complement and support the agency’s implementation across key elements of the President’s Climate Action Plan, including:

- Cutting carbon pollution from power plants through the Clean Power Plan;
- Establishing CO₂ emission standards and supporting increased fuel economy standards for heavy-duty vehicles;
- Cutting energy waste in homes, businesses, and factories;
- Reducing methane and hydrofluorocarbon (HFC) emissions;
- Preparing the country to address the impacts of climate change; and,
- Leading international efforts to address climate change.

The EPA’s voluntary public-private partnership programs are designed to capitalize on the cost-effective opportunities consumers, businesses, state and local governments, and other organizations have to invest in greenhouse gas reducing technologies, policies, and practices. These investments reduce greenhouse gas emissions from power plants, mobile sources, and various other sources.

Partners of the EPA’s Climate Protection Programs have achieved reductions or avoided increasing carbon dioxide (CO₂) and other greenhouse gases, such as methane, nitrous oxide and fluorinated greenhouse gases – including HFCs, perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆). Actions taken today will continue to deliver environmental and economic benefits for many years to come, since the investments made by the EPA’s partners as a result of the EPA programs often generate value for periods of ten years or more. In 2013 alone, the Climate

Protection Partnerships reduced greenhouse gas emissions by more than 421 million metric tons of carbon dioxide equivalent (MMT_{CO2E})—providing over \$16 billion in benefits to society by reducing damages from climate change.¹⁴

The EPA manages a number of voluntary efforts that remove barriers in the marketplace in order to deploy cost-effective technologies more rapidly. The EPA's programs work by overcoming widely acknowledged barriers to energy efficiency and deployment of GHG reduction measures such as: lack of clear, reliable information on technology opportunities; lack of awareness of energy efficient products, services, and transportation choices; and the need for additional incentives for manufacturers to invest in efficiency research and development.

The EPA started the ENERGY STAR program in 1992. The U.S. Department of Energy also supports the ENERGY STAR program, consistent with its areas of expertise. The program achieves significant and growing greenhouse gas reductions by removing market barriers which prevent the adoption of cost-effective, energy-efficient technologies and practices in the residential, commercial, and industrial sectors. It continues to yield significant environmental and economic results through its 16,000 partners. In the U.S., the ENERGY STAR program helped prevent more than an estimated 300 MMT_{CO2E}, resulting in savings of \$34 billion on Americans' annual utility bills in 2014 alone.¹⁵

The EPA is the overall ENERGY STAR brand manager and is responsible for the specification process for more than 70 product categories and the ENERGY STAR Most Efficient recognition program. The EPA continues to implement the ENERGY STAR Certified Homes program for both single family homes and multifamily buildings. The EPA manages the ENERGY STAR commercial and industrial programs; this work includes managing the brand, leading outreach, recognition, monitoring and verification, setting performance levels for building types, and managing and maintaining EPA's ENERGY STAR Portfolio Manager.

The EPA operates several voluntary programs that promote cost-effective reductions of methane and fluorinated gases by working collaboratively with industry. Methane is an especially potent greenhouse gas when released into the atmosphere. The AgSTAR program, which is a collaboration between the EPA and the Department of Agriculture that focuses on methane emission reductions from livestock waste management operations through biogas recovery systems, is working to support the Biogas Opportunities Roadmap highlighted in the White House Strategy to Reduce Methane Emissions. The Coalbed Methane Outreach Program promotes opportunities to profitably recover and use methane emitted from coal mining activities. The Landfill Methane Outreach Program promotes abatement and energy recovery of methane emitted from landfills. The Natural GasSTAR Program spurs the adoption of cost-effective technologies and practices that reduce methane emissions from the oil and natural gas sector through a collaborative partnership with companies. In support of the President's Methane Strategy, the EPA

¹⁴ Societal benefits are based on the social cost of carbon which monetizes the damages associated with an incremental increase in carbon emissions in a given year. The non-CO₂ emissions were converted to CO₂-equivalents assuming global warming potentials from the IPCC Fourth Assessment Report before applying the social cost of CO₂. For more information on program benefits, please see Office of Atmospheric Programs, U.S. Environmental Protection Agency, January 2015. "Climate Protection Partnerships 2013 Annual Report," Publication Number 430R13013.

¹⁵ U.S. Environmental Protection Agency, 2015. "ENERGY STAR Overview of 2014 Achievements," https://www.energystar.gov/ia/partners/publications/pubdocs/Overview%20of%20Achievements_508Compliant.pdf.

has proposed the Natural Gas STAR Methane Challenge and is working to secure industry commitments and participation to make additional methane reductions. The Voluntary Aluminum Industry Partnership and the SF6 Partnership for Electric Power Systems help the aluminum industry reduce its greenhouse gas emissions.

The EPA also manages the implementation of the Global Methane Initiative (GMI), a U.S. led, international public-private partnership that brings together over 40 partner governments and over one thousand public and private sector organizations to advance methane recovery and use methane as a clean energy source. GMI builds on the success of the EPA's domestic methane programs and focuses on advancing project development from agricultural manure management operations, coal mines, landfills, oil and gas systems, and municipal wastewater systems. The EPA continues to work with our partners to explore methane abatement opportunities in addition to recovery and use opportunities, to develop and implement country action plans, and to more closely align the work of GMI with other multilateral efforts such as the Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants to facilitate more effective and efficient international methane reduction efforts. As of 2013, the U.S. has supported several hundred projects around the world and has leveraged over \$400 million in public and private sector investments. These projects are yielding results now, with actual annual reductions of nearly 30 MMTCO₂E in 2013, with an additional 80 MMTCO₂E in potential reductions anticipated from projects that have not yet been fully implemented.¹⁶

Launched by the EPA in 2004, the SmartWay Transport program is a voluntary partnership between the EPA and industry to reduce fuel use and emissions from goods movement. SmartWay helps its partners (shippers, motor carriers, rail carriers, logistics companies, and others) identify fuel-saving operational and technical solutions. These solutions accelerate the deployment of fuel saving, low emission technologies and best practices and promote fuel savings and GHG reductions across the global supply chain. Collectively, SmartWay partners have reduced greenhouse gases by 61.7 MMTCO₂E, NO_x emissions by almost 1.1 million tons, and PM emissions by 43 thousand tons, contributing to our nation's clean air and climate goals. Improving supply chain efficiency helps these companies grow the economy, protect and generate jobs, reduce the use of oil, contribute to our nation's energy security, and be good environmental stewards. A relatively small federal investment has brought significant change to this sector.

The EPA is the SmartWay brand manager and is responsible for the specification process for nearly 20 product and vehicle categories, including both family (passenger) vehicles and commercial (heavy duty freight truck and trailer) vehicles, and the SmartWay Partnership and SmartWay Affiliate recognition programs. SmartWay is the only voluntary program working across the entire freight system to comprehensively address key national economic, energy, and environmental goals related to goods movement and freight sustainability. Numerous states, countries, international organizations, and private companies rely on SmartWay's supply chain tools, testing protocols and public-private partnership approach for their freight transport efficiency programs.

¹⁶ Additional information at: www.epa.gov/globalmethane and www.globalmethane.org.

Today, over 3,000 U.S. corporations and organizations, including many Fortune 500[®] companies, have registered with SmartWay, and they rely upon SmartWay's supply chain accounting tools and methods to assess, track, and reduce transportation-related carbon, energy use, and air emissions. To date, these businesses have saved approximately \$20.6 billion dollars by cutting their fuel use by 144.3 million barrels of oil. This is equivalent to annual emissions from over 13 million cars.

The EPA manages a number of other partnership programs that advance cleaner energy solutions to reduce GHG emissions. Having worked for many years helping state and local governments design and implement cost-effective energy efficiency, renewable energy and combined heat and power programs, the State and Local Climate and Energy Program is contributing analytical and policy expertise to state efforts to meet the Clean Power Plan and helping local governments design, implement, and measure the effectiveness of programs that reduce GHGs. The EPA's Combined Heat and Power (CHP) Partnership offers tools and services to facilitate and promote cost-effective, highly efficient CHP projects, while its Green Power Partnership supports the procurement of green power by Fortune 500[®] companies, small- and medium-sized businesses, [local](#), [state](#), and [federal](#) governments, and [colleges and universities](#). The EPA's Center for Corporate Climate Leadership serves as a virtual resource center for all organizations looking to expand their work in the area of GHG measurement and management.

As part of the Clean Power Plan, the EPA finalized standards for existing power plants on August 3, 2015. Power plants are the largest source of carbon dioxide emissions in the United States, making up roughly one-third of all domestic greenhouse gas emissions. The EPA has leveraged expertise in our non-regulatory climate partnership programs to help inform development of the Clean Power Plan, particularly the energy efficiency and renewable energy components. The EPA will continue to leverage this analytical support and expertise as the Clean Power Plan is implemented.

In addition to managing climate partnership programs, the EPA supports the reduction of use and emissions of hydrofluorocarbons (HFCs) through the Significant New Alternatives Policy (SNAP) program, a program mandated by Section 612 of the Clean Air Act Amendments. During 2015, this program finalized a number of key actions to both restrict the use of HFCs in applications where safer alternatives now exist, and to enhance the menu of options available in a host of key industrial sectors including refrigeration and air-conditioning, foams, and fire suppression. In addition, the EPA supported multilateral efforts designed to enable global conversion to more environmentally sustainable alternatives, promote the development of precise counting methods for HFCs, reduce the use and emissions of HFCs, and support the selection of more climate friendly alternatives.

FY 2017 Activities and Performance Plan:

In FY 2017, the agency will devote significant resources to provide technical assistance and other support to assist states in their implementation of the Clean Power Plan. Under the Clean Power Plan, the states, in developing their implementation plans, will look at the emission control strategies that many states and companies will employ to either shift power generation away from higher emitting plants or reduce the need for generation through energy efficiency. States will be looking to the EPA for technical and policy assistance with regard to these programs.

Supporting states in evaluating and capturing these strategies requires the agency to tap into technical and policy expertise not traditionally needed in the EPA's regulatory development (for example, nuclear, wind, solar, hydro-electric, and demand-side energy efficiency), and to understand and project system-wide approaches and trends in areas such as electricity transmission, distribution, and storage.

The Clean Power Plan will be implemented through state compliance plans that are submitted to the EPA for review and approval, with initial submittals beginning in 2016. In FY 2017, the Climate Protection Program will focus on developing the guidance and tools states will need to develop and implement their plans. For example, program expertise will be needed to model economic potential and evaluate costs and benefits of end-use energy efficiency and renewable energy measures to support state plan development. The program also will provide significant guidance to states on how to evaluate, monitor, and verify the effectiveness of energy efficiency measures. States also have significant flexibility to prepare plans that address carbon pollution on a multi-state basis and may adopt a variety of strategies, including market-based approaches. The program will leverage its significant experience working with its partners to help states incorporate the most effective and economical strategies into their plans.

The EPA also will continue to implement its government/industry partnership efforts to achieve additional greenhouse gas reductions. In addition to reducing greenhouse gas emissions, these efforts also reduce other forms of pollution, including criteria and toxic air pollutants such as sulfur dioxide (SO₂), nitrogen oxides (NO_x), particulate matter, and mercury by accelerating the adoption of energy efficient products and practices.

The EPA will continue to implement the ENERGY STAR program across the residential, commercial, and industrial sectors consistent with Administration commitments to cut energy waste in homes, businesses, and factories by:

- Maintaining consumer confidence in the ENERGY STAR label through effective third-party certification of qualifying products. To earn the label, products must be certified to meet program requirements by an accredited third-party certification body. Certification includes qualification testing before product labeling and post-market verification testing to confirm that products continue to meet program requirements. The agency's continuing role in this area will include:
 - Oversight of the laboratories and certification bodies recognized by the EPA to participate in the program; and,
 - Response and follow up to verification testing failures across more than 70 product categories.
- Maintaining integrity and confidence in the ENERGY STAR label on buildings and plants through effective certification of ENERGY STAR applications. This includes conducting spot audits on applications, supporting a network of verifiers to address issues that arise during the certification process and increasing training opportunities on the use of Portfolio Manager and certification procedures.
- Ensuring that products with the ENERGY STAR label continue to represent top efficiency performance by updating product specifications in terms of stringency in a timely manner. For product categories with rapidly evolving models (e.g.,

consumer electronics, office equipment), specifications should be updated about every two years. For all other product categories, the EPA has committed to consistently monitor market share and consider revisions, when market share of labeled products reaches 35 percent or at least every 3 years.

- Increasing the value of the ENERGY STAR label by adding product categories to the program, with a particular focus on the inter-connectivity of homes and products, including the connected thermostat. The EPA also will continue to support the ENERGY STAR Most Efficient recognition program.
- Updating existing building 1-100 ENERGY STAR scores, used to understand how a building's energy consumption measures up against similar buildings nationwide¹⁷, will be a key focus, as data on commercial building energy use is released by the Energy Information Agency. As resources and data become available, the agency will expand efforts to measure energy use by adding new ENERGY STAR energy performance scales for additional commercial building types and supporting the recently released 1-100 score for multifamily housing.
- Engaging regional, state and utility energy efficiency programs, trade associations and local governments to integrate ENERGY STAR as an educational platform to reduce energy use in commercial and industrial buildings. The EPA provides technical assistance and Portfolio Manager enhancements to over 14 jurisdictions that have adopted energy benchmarking and disclosure policies that require use of EPA's ENERGY STAR Portfolio Manager.
- Continuing to support efforts to enhance Portfolio Manager, as EPA's energy and greenhouse gas measurement and tracking tool by adding reporting and tracking functionality to serve corporate, federal, state and local government users and to assist in measuring carbon footprint of buildings.
- Continuing to support the ENERGY STAR Certified Homes program to ensure the technical rigor of the ENERGY STAR specifications, and working with participating builders, Home Energy Raters, and utility partners to develop technical solutions and facilitate their success in implementing these specifications through technical and training support.
- Educating and empowering homeowners with information on how to improve their homes' energy efficiency through on-line home assessment tools and ENERGY STAR recommended practices.
- Continuing to support the wide network of ENERGY STAR industrial partners through webinars, Focus Industry meetings and company-to-company mentoring.
- Promoting the ENERGY STAR Challenge for Industry and updating Industrial Energy Guides and Energy Performance Indicators (EPIs) in several sectors, while adding new sector focuses for energy intensive industries.

The EPA also will maintain its priorities to reduce CO₂ through the CHP and Green Power Partnerships in FY 2017. The CHP Partnership will focus its expertise on implementing the Climate Action Plan, including its efforts to promote the installation of CHP systems, which help cut energy waste in businesses and factories, and to support states' compliance with the

¹⁷ <http://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager/understand-metrics/how-1-100>.

Clean Power Plan through measures that advance highly-efficient CHP. The Green Power Partnership will focus on initiatives that increase demand for renewable energy, such as collaborative solar procurement within communities, the On-Site Renewable Challenge and aggregated green power purchasing, and leveraging relationships with key NGOs to reach a broader set of potential partners and stakeholders.

In FY 2017, the EPA will continue to promote cost-effective corporate GHG management practices and provide recognition for superior efforts through a joint award program with non-government organizations. The virtual Center for Corporate Climate Leadership will contribute to this effort through providing tools and resources to organizations and overseeing the award program. This complements the ongoing efforts of the State and Local Climate and Energy Program to provide tools and assistance to states and locals as they implement and measure programs that reduce greenhouse gases.

The EPA will continue the SmartWay Transport Partnership to increase energy efficiency and lower emissions of freight transportation through verification and promotion of advanced technologies including: anti-idling technologies, lower rolling resistance tires, improved aerodynamic truck designs, and improved freight logistics. SmartWay will continue its efforts to:

- Develop GHG accounting protocols for heavy-duty diesel trucks and explore opportunities to evolve protocols for the multimodal freight supply chain network;
- Promote SmartWay designated light-duty and heavy-duty vehicles that meet SmartWay's criteria for environmentally superior performance;
- Expand our SmartWay partner recruiting efforts while streamlining partner management processes;
- Update, as needed, federal guidance on low GHG-emitting vehicles for implementation of Energy Independence and Security Act (EISA) Section 141 federal vehicle purchase requirements;
- Continue to provide expertise and serve as a technical test bed in support of the agency's future policy direction for reducing greenhouse gas emissions;
- Promote a suite of new partner tools, designed to more easily benchmark and track performance, for shipper, carrier and logistics companies; and,
- Encourage the adoption of SmartWay methods and tools internationally through stakeholder development, information sharing, and collaboration on pilot projects.

In FY 2017, the EPA will continue to work to reduce emissions of methane and fluorinated greenhouse gases including HFCs through domestic partnerships with industry.

The EPA will work with other agencies to implement the Interagency Methane Strategy, which is an integral component of the President's Climate Action Plan. As part of this effort, the EPA will be looking to maximize efficiencies by leveraging the efforts of both voluntary and regulatory programs. The EPA will continue to lead the Global Methane Initiative (GMI) and explore the most effective ways to leverage this and other partnerships to enhance public-private sector cooperation to reduce global methane emissions and deliver clean energy to markets. The EPA will strategically target its resources to advance the development and implementation of methane recovery and use projects by reducing barriers to methane capture and use at

landfills, agricultural waste operations, coal mines, wastewater systems, and natural gas and oil facilities in partner countries. Support will involve identifying and addressing technical, institutional, legal, regulatory, and other barriers to project development based on strategic planning and coordination with partner countries' methane action plans. The EPA's work will leverage investments and assistance provided by the private sector and other partners and with other multilateral initiatives such as the Climate and Clean Air Coalition. The EPA also will continue its work to reduce the use and emissions of HFCs under the Significant New Alternatives Policy program and to support action on HFCs internationally.

The EPA will continue to develop and implement the Greenhouse Gas Reporting Program, and, as appropriate, support the activities under the President's Climate Action Plan, including the Interagency Methane Strategy. Consistent with the Methane Strategy, the program will continue to evaluate and address data gaps in order to improve oil and gas sector GHG emissions data and make that data publicly available. Established in October 2009, the GHG Reporting Program has a total of 41 sectors, with approximately 8,000 reporters. Focus areas for the program will include:

- Implementing regulatory revisions across multiple sectors to address stakeholder concerns associated with collection and potential release of data elements considered to be sensitive business information;
- Making regulatory revisions in response to stakeholder feedback to improve the scope and accuracy of GHG data, while reducing burden;
- Updating the database management systems to ensure alignment with regulatory amendments and improved reporting efficiency, including development of new electronic tools to remotely verify detailed emissions data;
- Carrying out a comprehensive QA/QC and verification process through a combination of electronic checks, staff reviews, and follow-up with facilities when necessary; and,
- Sharing data and sector-level analysis with the public in a timely manner, within the federal government, with state and local governments, and with reporting entities to support improved understanding of both emission levels and opportunities for GHG reductions.

The EPA will continue to fulfill U.S. obligations under the U.N. Framework Convention on Climate Change (UNFCCC). This includes preparing the annual Inventory of U.S. Greenhouse Gas Emissions and Sinks. In FY 2017, the EPA will focus its efforts on improving the Inventory through the use of Greenhouse Gas Reporting Program data and data from external studies, and through working with USDA and the US Forest Service to improve estimates of GHG emissions and sequestration from the land sector. The EPA also will build off the success of the 2015 Paris climate change agreement by working with State Department and international partners to develop international guidelines and good practices for the compilation and reporting of transparent information on greenhouse gas inventories, and reporting on progress towards meeting nationally-determined emission reduction contributions (NDC's). The EPA also will work with partners to build capacity in developing countries to monitor and report on emissions and mitigation policies through technical assistance and the development of user-friendly tools.

Performance Targets:

Measure	(AD4) Cumulative number of state, tribal, and community partners that have integrated climate change data, models, information, and other decision-support tools developed by EPA for climate change adaptation into their planning processes.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target							50	120	Number of Partners
Actual									

Measure	(AD5) Cumulative number of state, tribal, and community partners that have incorporated climate change adaptation into the implementation of their environmental programs supported by major EPA financial mechanisms (grants, loans, contracts, and technical assistance agreements).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target							50	100	Number of Partners
Actual									

Measure	(AD6) Cumulative number of EPA-developed training programs that incorporate climate change adaptation planning for EPA staff, state, tribal, and community partners (includes programmatic and cross-programmatic trainings).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target							3	4	Number
Actual									

Measure	(G02) Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the buildings sector.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	143.0	156.9	168.7	182.6	196.2	188.0	201.1	210.4	MMTCO2e
Actual	163.5	189.0	221.9	254.2	Data Avail 4/2016	Data Avail 12/2016			

Measure	(G06) Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the transportation sector through EPA's SmartWay partnership program.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	15.4	23.7	28.0	33.0	61	70	76	82	MMTCO2e
Actual	17.3	27.9	38.9	51.6	61.7	72.8			

Measure	(G16) Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the industry sector.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	304.0	346.2	372.9	421.9	461.8	540.3	676	702.7	MMTCO2e
Actual	362.8	386.4	378.1	637.9	Data Avail 4/2016	Data Avail 12/2016			

Measure	(G18) Percentage of Annual Greenhouse Gas Emission Reports verified by EPA before publication.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target				93	95	95	95	95	Percent of Reports Verified
Actual				96	98	Data Avail 4/2016			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$1,830.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefits costs.
- (+\$7,562.0 / +13.0 FTE) This program change reflects an increase in support of the President’s Climate Action Plan, including:
 - Implementation of the Clean Power Plan through development of tools that states will need to develop plans. In particular, the program will support states in evaluating emission control strategies that states and other entities are currently employing and provide guidance on how to assess, monitor, and verify the effectiveness of energy efficiency measures.
 - Implementation of the President’s Interagency Methane Strategy, including assessment of current emissions data, addressing data gaps, identifying technologies and best practices for reducing emissions to inform our programs and measures, and working to secure industry commitments to make additional methane reductions through the Natural Gas STAR Methane Challenge.
 - Reduction of use and emissions of HFCs under the Significant New Alternatives Policy (SNAP) program in key sectors, such as refrigeration and air conditioning and support for multilateral efforts, which will require upgrades to data systems and models needed for the various interagency and international efforts that the EPA has been asked to lead.
 - Support for climate-related technical assistance to further enhance the agency’s international leadership role in advancing the international aspects of the President’s Climate Action Plan.
- (+\$500.0) This program change reflects an increase to support the Greenhouse Gas Reporting Program to support reporting entities, ensure data accuracy, and provide transparency into the major sources of GHG emissions across the nation. There will be continued focus on improving and analyzing data from the oil and gas sector, specifically, considering ways to address reporting gaps and explore opportunities to apply innovative monitoring technologies such as leak detection and remote sensing.
- (+\$500.0) This program change reflects an increase to support the ongoing Global Methane Initiative to enhance public-private sector cooperation to reduce global methane emissions and deliver clean energy to markets.

- (+\$1,933.0) This program change reflects an increase to support ENERGY STAR to focus on updating existing building 1-100 ENERGY STAR scores as well as to support efforts to enhance the ENERGY STAR Portfolio Manager by adding reporting and tracking functionality to serve corporate, federal, state and local government users and to assist in measuring the carbon footprint of buildings.

Statutory Authority:

Clean Air Act; Pollution Prevention Act (PPA), §§ 6602-6605; National Environmental Policy Act (NEPA), § 102; Clean Water Act, § 104; Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), § 8001; Energy Policy Act of 2005, § 756.

Federal Stationary Source Regulations

Program Area: Clean Air and Climate

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Address Climate Change; Improve Air Quality

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$25,647.9</i>	<i>\$22,943.0</i>	<i>\$37,893.0</i>	<i>\$14,950.0</i>
Total Budget Authority / Obligations	\$25,647.9	\$22,943.0	\$37,893.0	\$14,950.0
Total Workyears	110.9	122.5	122.5	0.0

Program Project Description:

Under the Clean Air Act (CAA), the EPA is required to set National Ambient Air Quality Standards (NAAQS) for ambient pollutants considered harmful to public health and the environment. The six “criteria” pollutants for which the EPA has established NAAQS are: particulate matter (PM), ozone, sulfur dioxide (SO₂), nitrogen dioxide (NO₂), carbon monoxide (CO), and lead. The CAA requires the EPA to periodically review the science upon which the NAAQS are based and the standards themselves. These national standards form the foundation for air quality management and establish goals that protect public health and the environment.

Section 109 of the CAA Amendments of 1990 established two types of NAAQS. Primary standards are set at a level requisite to protect public health with an adequate margin of safety, including the health of at-risk populations, such as children, older adults, and persons with pre-existing cardiovascular or respiratory disease such as asthma.¹⁸ Secondary standards are set at a level requisite to protect public welfare from any known or anticipated adverse effects, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

This program also includes activities, mandated by the CAA, directed toward reducing air emissions of toxic, criteria, and other pollutants from stationary sources. Specifically, to address air toxics, this program provides for the development of National Emission Standards for Hazardous Air Pollutants (NESHAP) for major sources (i.e., Maximum Achievable Control Technology - MACT standards) and area sources, the development of standards of performance and emissions guidelines for waste combustion sources, the assessment and, as necessary, regulation of residual risk remaining after implementation of the NESHAP, the periodic review and revision of the NESHAP, and associated national guidance and outreach. In addition to existing CAA and court-ordered mandates, the EPA is required to periodically review, and where appropriate, revise both the list of air toxics subject to regulation and the list of source categories for which standards must be developed. The program also includes issuing, reviewing, and

¹⁸ The legislative history of section 109 indicates that a primary standard is to be set at “the maximum permissible ambient air level which will protect the health of any [sensitive] group of the population,” and that for this purpose “reference should be made to a representative sample of persons comprising the sensitive group rather than to a single person in such a group” [S. Rep. No. 91-1196, 91st Cong., 2d Sess. 10 (1970)].

periodically revising, as necessary, New Source Performance Standards (NSPS) for criteria and certain listed pollutants, and establishing Reasonably Available Control Technology (RACT) through issuance and periodic review and revision of control technique guidelines (CTG).

The CAA also requires protection of air quality related values (AQRV) for 156 congressionally mandated national parks and wilderness areas, known as Class I areas. Visibility is one such AQRV, and Congress established a national goal of returning visibility in the Class I areas to natural conditions, i.e., the visibility conditions which existed without manmade air pollution. The EPA developed the Regional Haze Rule which sets forth the requirements that state plans must satisfy to make reasonable progress towards meeting this national goal. The year 2064 is used as a reference date in the regional haze planning process, but is not a firm statutory deadline to achieve natural conditions of visibility.

The President announced the Climate Action Plan in June 2013, and, as part of that, the Strategy to Reduce Methane Emissions in March 2014. These plans will cut greenhouse gas (GHG) pollution that causes climate change and affects public health. This program supports the Plan's goal to develop and implement carbon pollution standards for new and existing power plants and to undertake actions to reduce GHGs in other sectors.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA is requesting additional resources to support components of the President's Climate Action Plan including the Clean Power Plan as well as resources for ongoing regulatory reviews mandated by the CAA including any associated actions. In FY 2017, the EPA intends on taking actions responsive to the June 2014 U.S. Supreme Court decision regarding GHG permitting, as well as the April 2015 D.C. Circuit Amended Judgment implementing the Supreme Court decision. Specifically, this includes moving forward with a rulemaking that revises the Tailoring Rule to amend requirements regarding prevention of significant deterioration (PSD) and Title V air permit programs consistent with the court decisions. This rulemaking also will include setting a significant emission rate (SER) for GHGs for purposes of PSD permitting.

The CAA requires the EPA to set NSPS for industrial categories that cause, or significantly contribute to, air pollution that may endanger public health or welfare. In FY 2017, the EPA will continue work to address NSPS for sources of air pollutants and as appropriate, GHGs, consistent with the requirements of the CAA. Section 111 of the CAA requires the EPA, at least every eight years, to review and, if appropriate, revise NSPS for each source category for which such standards have been established. The EPA plans to continue any work for the Clean Power Plan, including developing federal plans on a state specific basis as needed.

In FY 2017, the EPA will continue its reviews of the NAAQS in accordance with the CAA statutory mandate to review the standards every five years, and make revisions, as appropriate. Conducting multiple concurrent reviews requires a substantial investment in highly trained staff and the allocation of significant analytical resources. Each review involves a comprehensive reexamination, synthesis, and evaluation of the scientific information, the design and conduct of complex air quality and risk and exposure analyses, the development of a comprehensive policy assessment providing a transparent staff analysis of the scientific basis for alternative policy

options, and the development of proposed and final rules. The assessments provide the foundation for the agency's decisions and undergo extensive internal and external scientific peer review.

In addition to reviewing existing standards, work is currently underway to achieve and maintain compliance with existing standards. These include the ozone standards established in 2015, 2008, 1997, and 1979; the 1997 PM₁₀ standards; the 2012, 2006 and 1997 PM_{2.5} standards; the 2008 lead standard; the 2010 NO₂ standard; the 1971 CO standard; and the 2010 SO₂ standard.

Air toxics are pollutants known to cause or suspected of causing cancer, birth defects, reproductive effects, or other serious health problems. The 2011 National Air Toxics Assessment (NATA) estimated that the median cancer risk to an individual due to the inhalation of toxic air pollutants from outdoor sources emitted at 2011 emission levels for a lifetime was 40 in 1 million. Additionally, the 2011 NATA estimated that about half a million people—less than 1 percent of the total U.S. population based on the 2010 census¹⁹—were exposed to air toxics levels that associated with a cancer risk of 100 in a million or greater. Populations most likely to experience higher risks live mainly in urban locations where they are exposed to a combination of sources. To reduce or eliminate the health risks and exposures to air toxics in affected communities and to fulfill its statutory and court-ordered obligations more efficiently, the EPA will continue to pursue opportunities to meet multiple CAA requirements for stationary sources in more integrated ways in FY 2017. For example, where the CAA requires the agency to take multiple regulatory actions that affect the same industry, the EPA will align the timing of these rulemaking actions to take advantage of synergies between the multiple rules, where feasible. Coordinating such actions allows the agency to use fewer resources to meet multiple CAA objectives for controlling both criteria and toxic air pollutants while considering cost-effectiveness and technical feasibility of controls. It also creates greater certainty for regulated industry. Even with the greater efficiency provided by this approach, resources are needed to complete the court-ordered and statutorily required review and promulgation of standards and conduct rigorous analysis to incorporate the best available science.

The work on regulatory reviews statutorily mandated by the CAA will be prioritized to maximize public health protection and to meet court-ordered deadlines. For example, section 112(d)(6) of the CAA requires the EPA to review and revise, as necessary, within eight years, all of the MACT standards for air toxics that have been promulgated under CAA section 112 since 1990. These reviews include collection of new information and emissions data from industry; review of emission control technologies; and associated economic analyses for the affected industries. Similarly, section 112(f) of the CAA requires the EPA to conduct reviews of the risk that remains after the implementation of MACT standards within eight years of promulgation. In 2017, the EPA will engage in rulemaking efforts to review and revise, as necessary and appropriate, priority industry sectors, which may include Integrated Iron and Steel Manufacturing, Coke Ovens, Publicly Owned Treatment Works, Plywood and Composite Wood Products, Ethylene Production, and several other source categories, including coatings source categories. In addition, under section 129 of the CAA, the EPA plans to continue efforts to address the risk and technology review for Large Municipal Waste Combustors and to address issues related to Other Solid Waste Incinerators.

¹⁹ The 2011 NATA used the 2010 census, which estimated the U.S. population to be 313 million.

Compliance testing and monitoring methodologies are being developed and improved in support of these risk determination and rulemaking efforts.

In FY 2017, the EPA will address program-wide issues, including court-vacated rules that apply across many industrial sources (such as exemptions for start-up and shutdown, removal of the affirmative defense, and the collection and application of the best available data using electronic systems that increase efficiency, accuracy, and transparency). The EPA will continue to encourage electronic reporting of compliance data and develop modifications to reporting procedures, including the incorporation of electronic reporting provisions into regulations. The reports that will be required to be submitted electronically include summary reports, excess emissions reports, performance test reports, performance evaluation reports and other similar reports required by Part 60 and 63 rules. These requirements will replace the current requirements to provide the specified reports to the EPA in hardcopy, but do not change the type of information that is required to be submitted. This will reduce the burden and costs to the industry, state, and federal entities.

Finally, the EPA will continue to devote resources to evaluating State Implementation Plans for regional haze to ensure that states are making reasonable progress towards their visibility improvement goals. States are required to report on their progress every five years and make periodic comprehensive plan revisions. In 2017, the EPA will assist states that are developing the plan revisions that are scheduled to be due in 2018. The CAA requires the EPA to assess and approve the plans and correct any deficiencies.

Performance Targets:

Measure	(001) Cumulative percentage reduction in tons of toxicity-weighted (for cancer risk) emissions of air toxics from 1993 baseline.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	36	36	37	42	42	42	41	41	Percent Reduction
Actual	40	45	45	45	Data Avail 2017	Data Avail 2017			

Measure	(002) Cumulative percentage reduction in tons of toxicity-weighted (for non-cancer risk) emissions of air toxics from 1993 baseline.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	59	59	59	59	59	58	57	57	Percent Reduction
Actual	53	55	55	55	Data Avail 2017	Data Avail 2017			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$954.0 This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$10,152.0) This program change reflects an increase to support components of the

President's Climate Action Plan including supporting the review of state plans and the development of state specific federal plans, as needed. The agency will continue to address NSPS for sources of air pollutants and as appropriate, GHGs, consistent with the requirements of Section 111 of the CAA

- (+\$3,844.0) This program change reflects an increase for ongoing regulatory reviews statutorily mandated by the CAA that will be prioritized to meet court-ordered deadlines and to maximize public health protection. This may include Integrated Iron and Steel Manufacturing, Coke Ovens, Publicly Owned Treatment Works, Plywood and Composite Wood Products, Ethylene Production, and several other source categories, including coatings source categories.

Statutory Authority:

Clean Air Act.

Federal Support for Air Quality Management

Program Area: Clean Air and Climate

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Address Climate Change; Improve Air Quality

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$122,762.3</i>	<i>\$124,743.0</i>	<i>\$162,374.0</i>	<i>\$37,631.0</i>
Science & Technology	\$7,530.8	\$7,467.0	\$8,624.0	\$1,157.0
Total Budget Authority / Obligations	\$130,293.1	\$132,210.0	\$170,998.0	\$38,788.0
Total Workyears	765.7	842.0	848.0	6.0

Program Project Description:

Under the Clean Air Act (CAA), the EPA is required to set National Ambient Air Quality Standards (NAAQS) for ambient pollutants considered harmful to public health and the environment. The six “criteria” pollutants for which the EPA has established NAAQS are: particulate matter (PM), ozone, sulfur dioxide (SO₂), nitrogen dioxide (NO₂), carbon monoxide (CO), and lead (Pb). The CAA requires the EPA to periodically review the science upon which the NAAQS are based and the standards themselves. These national standards form the foundation for air quality management and establish goals that protect public health and the environment.

Section 109 of the CAA Amendments of 1990 established two types of NAAQS. Primary standards are set at a level requisite to protect public health with an adequate margin of safety, including the health of at-risk populations, such as children, older adults, and persons with pre-existing cardiovascular or respiratory disease such as asthma.²⁰ Secondary standards are set at a level requisite to protect public welfare from any known or anticipated adverse effects, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

Fine particulate matter (PM_{2.5}) is associated with premature deaths as well as aggravation of cardiovascular and respiratory disease (as indicated by increased hospital and emergency department visits, and development of chronic respiratory disease). The EPA estimates that PM_{2.5} contributes to tens of thousands of deaths each year. Exposure to ozone is associated with a wide range of adverse health effects including: decreased lung function; increased respiratory symptoms; respiratory morbidity such as emergency department visits and hospital admissions for respiratory causes; new onset asthma; and, premature mortality. Elevated levels of Pb in children have been associated with IQ loss, poor academic achievement, and delinquent behavior. Short-

²⁰ The legislative history of section 109 indicates that a primary standard is to be set at “the maximum permissible ambient air level which will protect the health of any [sensitive] group of the population,” and that for this purpose “reference should be made to a representative sample of persons comprising the sensitive group rather than to a single person in such a group” [S. Rep. No. 91-1196, 91st Cong., 2d Sess. 10 (1970)].

term exposure to SO₂ can result in adverse respiratory effects, including narrowing of the airways, which can cause difficulty breathing, particularly in at-risk populations, including people with asthma who are active outdoors, and children and older adults. Exposure to NO₂ has been associated with a variety of health effects, including increased respiratory symptoms, especially among asthmatic children, and respiratory-related emergency department visits and hospital admissions, particularly for children and older adults.

The Federal Support for Air Quality Management Program Project assists states, tribes, and local air pollution control agencies in the development, implementation, and evaluation of programs for the NAAQS, establishes standards for reducing air toxics, and sustains visibility protection. The EPA develops federal measures and regional strategies that help to reduce emissions from stationary and mobile sources; states have the primary responsibility (and tribes may choose to take responsibility) for developing clean air measures necessary to meet the NAAQS and protect visibility. The EPA partners with states, tribes, and local governments to create a comprehensive air quality management program to ensure that multi-source and multi-pollutant reduction targets and air quality improvement objectives, including consideration of environmental justice issues, are met and sustained. At the core of this air quality management program are sound scientific and technical data of air pollutant emissions and concentrations. The EPA, working with states, tribes, and local air agencies, collects these data and maintains databases (e.g., Emissions Inventory System, Air Quality System, etc.). The EPA also supports training for state, tribal, and local air pollution professionals on rulemakings and other significant actions.

For each of the six criteria pollutants, the EPA tracks two kinds of air pollution trends: air pollutant concentrations based on actual measurements in the ambient (outside) air at monitoring sites throughout the country, and emissions based on engineering estimates or measurements of the total tons of pollutants released into the air each year. The EPA works with state and local governments to ensure the technical integrity of source controls in State Implementation Plans (SIPs) and with tribes to ensure the technical integrity of source controls in Tribal Implementation Plans (TIPs). The EPA assists states, tribes, and local agencies to identify the most cost-effective control options available, including consideration of multi-pollutant reductions and innovative strategies. This program includes working with other federal agencies to ensure a coordinated approach and working with other countries to address pollution sources outside U.S. borders that pose risks to public health and the environment within the U.S. The EPA also assists states, tribes and local governments with implementing partnership (i.e., non-regulatory) programs like the ozone and PM Advance. These programs, which complement state and federal regulatory efforts, help attainment areas take action to keep ozone and PM levels below the NAAQS to ensure continued health protection and better position areas to remain in attainment.

The CAA also requires protection of air quality related values (AQRV) for 156 congressionally mandated national parks and wilderness areas, known as Class I areas. Visibility is one such AQRV, and Congress established a national goal of returning visibility in the Class I areas to natural conditions, i.e., the visibility conditions which existed without manmade air pollution. The EPA developed the Regional Haze Rule which sets forth the requirements that state plans must satisfy to make reasonable progress towards meeting this national goal. The year 2064 is used as a reference date in the regional haze planning process, but is not a firm statutory deadline to achieve natural conditions of visibility.

Toxic air pollutants are known to cause or are suspected of causing increased risk of cancer and other serious health effects, such as neurological damage and reproductive harm. The Federal Support Program assists state, tribal, and local air pollution control agencies in characterizing the nature and scope of their air toxics issues through modeling, emission inventories, monitoring, and assessments. For example, this program also supports updates to the National Air Toxics Assessment (NATA) to provide recent information on air toxics risks from a national perspective. The EPA also supports programs that reduce inhalation risk and multi-pathway risk posed by deposition of air toxics to water bodies and ecosystems, facilitates international cooperation to reduce transboundary and intercontinental air toxics pollution, develops risk assessment methodologies for toxic air pollutants, and provides training for air pollution professionals.

The President announced the Climate Action Plan in June 2013, and, as part of the Plan, the Strategy to Reduce Methane Emissions in March 2014. These plans call for cuts in greenhouse gas (GHG) pollution to reduce the contribution of human activities to climate change and its impacts on public health. The Federal Support Program assists states, tribes, and local air pollution control agencies in the development, implementation, and evaluation of programs to reduce carbon pollution. The program also supports the agency's work with international partners to combat short-lived climate pollutants.

FY 2017 Activities and Performance Plan:

Addressing Climate Change

In FY 2017, the EPA requests additional resources to fund key activities in support of the President's Climate Action Plan. During FY 2017, the EPA will continue to take steps in partnership with other agencies to implement the President's Climate Action Plan. In FY 2017, the EPA will implement emission standards to reduce GHG emissions from the power sector under Section 111 of the CAA. The agency will actively engage with states as they develop and implement state compliance plans required by the emission guidelines established under the Clean Power Plan including development of the implementation infrastructure needed for states to develop and submit approvable plans. Public engagement proved essential throughout the development of the Clean Power Plan, and the EPA also will continue to engage with communities and the public now that the rule is final. The Clean Power Plan rule for existing sources provides a great amount of flexibility and discretion to states to design individualized or multi-state plans that work best for them. As a result, the agency has been and will continue to provide a substantial amount of direct technical assistance to states to complete their plans by the expected deadlines. This support infrastructure will involve the development of national processes and technical guidance, delivery of training on relevant topics through webinars, teleconferences, and meetings, formation of expert teams to provide technical assistance to states on particular topics, and the development of tracking and reporting systems to capture information on plan development and approval, and to evaluate, measure and verify data for meeting plan goals.

Under the President's Climate Action Plan, the EPA will continue to work with other countries to take action to address climate change. The EPA will consider the results of a range of international assessments to address the climate impacts of short-lived climate pollutants. These air pollutants, including black carbon (a component of PM), and tropospheric ozone, are contributing to and

accelerating the impacts of climate change. Reducing emissions of these pollutants can create near-term climate and public health benefits. The EPA will continue to identify the most significant domestic and international sources of black carbon and ozone precursor emissions by working with the multilateral Climate and Clean Air Coalition (CCAC), the Arctic Council, the Convention on Long-range Transboundary Air Pollution (LRTAP), and other related international efforts. Based on these findings and enhanced analytical capabilities, the EPA will pursue effective steps for reducing these emissions. The EPA will continue its collaboration with CCAC partners to develop and deploy rapid assessment tools to enable countries to determine the benefits of mitigating short-lived climate pollutants. For instance, the EPA is applying these tools in Ghana, Africa to implement best practices for addressing air pollution in ways that achieve climate co-benefits.

The EPA will continue to provide oversight of the activities of state and local permitting programs as they review permit applications and issue permits addressing GHGs, including issuance of permits for oil and gas to minor sources in Indian country. The EPA also will continue to address complex national policy questions that arise and ensure national consistency as the GHG requirements are implemented.

Finally, in FY 2017, the agency will provide on-the-ground resources to assist overburdened and vulnerable communities as they work to address the effects of climate change. These community resource coordinators will work with external partners such as community stakeholder organizations, other federal agencies, state, local and regional government, foundations, private sector, academia, and foundations to assist communities as they begin to plan for climate change and implement actions to increase resilience to climate impacts.

Improving Air Quality

Since passage of the CAA Amendments in 1990, air quality has improved significantly for communities across the country. From 2003 to 2014, population-weighted ambient concentrations of fine particulate matter and ozone have decreased 29 percent and 18 percent, respectively. However, even with this progress, in 2014, approximately 57 million people lived in counties with air that did not meet health-based standards for at least one pollutant. In FY 2017, the EPA requests additional resources to fund key activities in support of the NAAQS and stationary source implementation.

In FY 2017, the EPA will continue its CAA-prescribed responsibilities to administer the NAAQS by taking federal oversight actions and by developing regulations and policies to ensure continued health and welfare protection during the transition between existing and new standards. The EPA will provide technical and policy assistance to states and tribes developing or revising attainment SIPs/TIPs, and will designate or re-designate areas as attainment or nonattainment, as appropriate. Implementation of the NAAQS improves air quality, thereby improving public health and welfare.

The EPA regional offices continue to focus on taking action on both incoming SIPs and reducing the SIP backlog in a manner that aligns with commitments to the states to eliminate the SIP backlog as well as to act on incoming SIPs within agreed upon timeframes. The agency continues to look at innovative ways to improve the efficiency and effectiveness of the State Implementation Plan (SIP) process. In 2015, the EPA deployed a process to start receiving electronic submissions of SIP revisions, which reduces state burden.

***Effective State Planning
Leads to Cleaner Air***

Over the last 10 years, 8-hour ozone levels have decreased by 50% and fine particles (PM_{2.5}) levels have decreased by 20% in the South Coast (California). While these significant decreases can be attributed to a number of factors, they would not have been possible without the State of California's and local air districts' successful coordination and cooperation with the EPA on developing and executing effective SIPs.

***EPA and State Collaboration
to Address SIP Backlog***

Recognizing the importance of processing SIPs on a timely basis, the EPA and state and local air agencies have been collaborating over the past few years to address SIP processing delays and the growth of a SIP processing backlog that affects areas across the U.S. This collaboration has provided both the EPA and air agencies a better understanding of the challenges each faces when implementing air quality programs and steps we can each take to help meet these challenges. The EPA and state representatives meet annually to review the progress being made.

To support the NAAQS federal program, the EPA will continue, within current statutory and resource limitations, to make improvements in procedures and guidance for area designations and implementation.

The EPA will continue to assist other federal agencies and state and local governments in implementing the conformity regulations. The regulations require federal agencies, taking actions

in nonattainment and maintenance areas, to determine that the emissions caused by their actions will conform to the SIP. The EPA also will work with state, Tribal, and local agencies to share information about available tools, resources, and data that may be of use to identify emission reduction and public participation options.

The EPA will continue to implement a strategy that, where appropriate, supports the development and evaluation of multiple pollutant measurements. This strategy includes changes, where the agency deems necessary, to effectively implement revised NAAQS monitoring requirements for ozone, Pb, SO₂, NO₂, CO, and PM.

Finally, the EPA will continue to devote resources to evaluating State Implementation Plans for regional haze to ensure that states are making reasonable progress towards their visibility improvement goals. States are required to report on their progress every five years and make periodic comprehensive plan revisions. In FY 2017, the EPA will assist states that are developing the plan revisions that are scheduled to be due in 2018. The CAA requires the EPA to assess and approve the plans and correct any deficiencies.

The EPA will continue to support permitting authorities on the timely issuance of initial and renewal permits and respond to citizen petitions under the Title V operating permits program. The agency will perform monitoring and modeling support associated with permit issuance and National Environmental Policy Act evaluation. The EPA maintains the RACT/BACT/LAER clearinghouse (RBLC) to help permit applicants and reviewers make pollution prevention and control technology decisions for stationary air pollution sources. The RBLC includes data submitted by several U.S. territories and all 50 states on over 200 different air pollutants and 1000 industrial processes. Please see <http://cfpub.epa.gov/RBLC/> for more information.

The EPA will continue to work with state and Tribal governments to implement revisions to the PSD requirements and New Source Review (NSR) rules, including technical improvements to preferred air quality models and methods for compliance demonstrations, updates to delegation agreements (for delegated states) and review of implementation plan revisions (for SIP-approved states and TIP-approved tribes). The EPA will continue to review and respond to reconsideration requests and (working with the Department of Justice) legal challenges related to NSR program revisions, take any actions necessary to respond to court decisions, and work with states and industries on NSR applicability issues. Emphasis will be given to assisting tribes in implementing the Tribal NSR Rule to help them develop the capacity to assume delegation of the rule or to effectively participate in reviews of permits issued by the EPA in Indian country.

As part of the agency's ongoing efforts to modernize its business processes for greater effectiveness and efficiency consistent with a high-performing organization, the EPA will undertake activities to enhance implementation progress under its CAA preconstruction and operating permitting programs. These activities will improve transparency and provide greater clarity and certainty for sources while eliminating unnecessarily time-consuming process steps, resulting in expedited decision-making that fully assures public health and environmental protection. Areas of focus will include updates of key air quality models and emissions factors, and communication of available flexibilities to enhance permit durability and avoid the need for frequent permit revisions.

In FY 2017, the EPA will continue to participate in assessing and addressing the effects of global and hemispheric transboundary air pollution on U.S. air quality management efforts. The EPA will continue participating in negotiations and implementing activities under international treaties, such as the U.S.-Canada Agreement, the Convention on Long-range Transboundary Air Pollution, and the Global Minamata Convention on mercury to address fine particles, ozone, mercury, and persistent organic pollutants. In addition, the EPA will continue working on mutually beneficial capacity building efforts with key countries and regions (e.g., China, India, and Mexico) to reduce emissions that contribute to transboundary air pollution.

One of the EPA's top priorities is to fulfill its CAA and court-ordered obligations. The CAA requires that the emissions control bases for all Maximum Achievable Control Technology (MACT) standards be reviewed and updated, as necessary, every eight years. In FY 2017, the EPA will continue to conduct risk assessments to determine whether the MACT rules appropriately protect public health. The program will prioritize its work, as resources allow, with an emphasis on meeting court ordered deadlines. To develop effective standards, the EPA needs accurate information about actual emissions, their composition, specific emission points, and transport into communities.

In addition to meeting CAA requirements under Sections 111, 112, and 129 for new or revised emission standards for criteria, toxic, and other air pollutants for a wide variety of stationary source categories, the EPA will continue, as resources allow, its multi-pollutant and sector-based efforts by constructing and organizing initiatives around industrial sectors. The focus of these efforts is to comply with the CAA requirements for NSPS and National Emission Standards for Hazardous Air Pollutants (NESHAP) by addressing an individual sector's emissions comprehensively and to prioritize regulatory efforts to address the sources and pollutants of greatest concern. The EPA will continue to look at all pollutants in an industrial sector and identify ways to take advantage of the co-benefits of pollution control. In developing sector and multi-pollutant approaches, the EPA seeks innovative solutions that address the differing nature of the various sectors.

In FY 2017, the EPA will continue to provide information and assistance to states and communities through documents, websites, webinars and training sessions on tools to help them in conducting assessments and identifying risk reduction strategies for air toxics. The agency will continue to work with environmental justice communities to address air toxics concerns.

In FY 2017, the agency's programs and activities will align with the E-Enterprise collaborative effort with states, tribes, and others to modernize the business processes and systems that support environmental protection. In FY 2017, the EPA will continue revising regulations to enhance its ability to collect electronic submissions of emissions data directly from the sources subject to CAA regulations as one aspect of the agency's E-Enterprise efforts. The EPA's goals in requiring facilities to report emissions data electronically are to reduce burden and costs for industry, states, and federal activities; to reduce the need to develop information collection requests that are otherwise a part of the rule development process; to improve the transparency of emissions information; to expedite the development and revision of emissions factors; and to enhance the quality of the data underpinning the stationary source regulations. As part of E-Enterprise, the program has taken steps to improve the quality and efficiency of its electronic reporting process, including releasing a new Electronic Reporting Tool (ERT) version, initiating development of a web-based ERT, and releasing a new Compliance and Emissions Data Reporting Interface. In addition, the program, in collaboration with other offices, is developing guidance on the proper use of sensors and the interpretation of the data coming from sensors which can be used by citizen scientists and others to better understand air quality in their area. The program also is continuing to meet the EPA's goal of streaming real time air quality information from two sites.

The EPA will continue to operate and maintain the Air Quality System (AQS), which houses the nation's air quality data and allows for exchanges of data and technology. The EPA will modify AQS, as necessary, to reflect new ambient monitoring regulations and to ensure that it complies with critical programmatic needs and with the agency's architecture and data quality standards. The EPA will continue to operate and maintain the AQS Data Mart, which provides access to the scientific community and others to obtain air quality data via the internet. The EPA will modify the AQS Data Mart, as necessary, to ensure it reflects changes made to AQS.²¹ Further, the EPA will continue to operate and maintain the Emissions Inventory System (EIS), a system used to quality assure and store current and historical emissions inventory data, and to generate the

²¹ For more information about AQS, visit <http://epa.gov/ttn/airs/airsaqs/>, and for the AQS Data Mart, http://www.epa.gov/ttn/airs/aqsdatamart/basic_info.htm.

National Emissions Inventory (NEI). The NEI is used by the EPA, states, and others to analyze the public health risks from air toxics and to develop strategies to manage those risks and support multi-pollutant analysis covering air toxics, criteria pollutants, and GHGs. The EPA will continue to operate and maintain AirNow, which provides real-time air quality data and forecasts nationwide.²² The EPA and the states began a process of modernizing how air emissions data is separately reported under four programs. The Combined Air Emissions Reporting (CAER) project will streamline and integrate multiple emissions reporting, making it easier and more efficient for state, local, and tribal air agencies and industry to report required air emissions data and improve the quality of the data received. The reporting burden on regulated entities is expected to drop significantly as they will only be required to report facility and emissions information once for all four programs and then update as needed. EPA and states will be able to improve coordination on quality assurance activities and reduce data handling. The project will increase transparency and data quality for the public and decision makers.

In FY 2017, the EPA will provide assistance to state, tribal, and local agencies in implementing national programs and assessing their effectiveness in a streamlined way. In particular, the EPA will enhance audits of state air laboratories. The EPA uses a broad suite of analytical tools, such as source characterization analyses, emission factors and inventories, statistical analyses, source apportionment techniques, quality assurance protocols and audits, improved source testing and monitoring techniques, urban and regional-scale air quality models, and augmented cost/benefit tools, to assess control strategies. See <http://www.epa.gov/ttn> for further details. The agency will maintain these tools (e.g., integrated multiple pollutant emissions inventory, air quality modeling platforms, etc.) to provide the technical underpinnings for more efficient and comprehensive air quality management and for integration with climate change activities.

Continuing to Update and Improve Analytics

The EPA is updating its Air Pollution Control Cost Manual (“Control Cost Manual”) which provides guidance on how EPA estimates costs for air pollution control. Two updated chapters were issued for public comment in 2015 and additional chapters will be available for review in 2016. The EPA also is updating its air quality modeling guidelines. Proposed revisions to the guidelines, which include improvements in the AERMOD dispersion model and new methods for addressing ozone and secondary PM_{2.5}, were issued in 2015 and will be finalized in 2016.

In FY 2017, the EPA will maintain the analytical capabilities required to develop effective regulations including: analyzing the economic impacts of regulations and policies; developing and refining existing emission test methods for measuring pollutants from smokestacks and other industrial sources; developing and refining existing source sampling measurement techniques to determine rates of emissions from stationary sources; and conducting air quality modeling that characterizes the atmospheric processes that disperse a pollutant emitted by a source. Resources from the Science and Technology

appropriation component of this program support the scientific development of these capabilities. The EPA’s current assessments indicate that, while many air toxics are widespread, areas of concentrated emissions, such as communities with concentrated industrial and mobile source activity (near ports or distribution areas), often have greater cumulative exposure. Working with

²² For more information about AirNow, visit www.airnow.gov.

stakeholders and informed by analysis of air quality health risk data, the EPA is working to prioritize key air toxics regulations that can be completed expeditiously and that will address significant risks to public health.

The EPA will continue to offer technical support to state and local agencies as they implement the National Air Toxics Monitoring Network. The network has two main parts: the National Air Toxics Trends Sites (NATTS) and Community Scale Air Toxics Ambient Monitoring (CSATAM) projects. The NATTS, designed to capture the impacts of widespread pollutants, is comprised of 27 permanent monitoring sites, and the CSATAM projects are comprised of scores of short-term monitoring projects, each designed to address specific local issues. See <http://www.epa.gov/ttn/amtic/airtoxpg.html> for additional information. The EPA will continue to use its technical expertise to improve monitoring systems to fill data gaps and better assess population exposure to toxic air pollution. Also, the EPA will continue updating nationwide information on ambient levels of criteria and toxic air pollutants.

Finally, at the local level, communities - especially environmentally overburdened and underserved communities - do not always have sufficient air quality data or other information at a local level to understand and act upon existing risks. In FY 2017, the EPA will continue to offer technical support and tools to help communities understand their air quality and make a visible difference in their own communities.

Performance Targets:

Measure	(M9) Cumulative percentage reduction in population-weighted ambient concentration of ozone in monitored counties from 2003 baseline.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	11	12	13	15	16	16	17	19	Percent Reduction
Actual	15	16	13	15	18	Data Avail 12/2016			

Measure	(M91) Cumulative percentage reduction in population-weighted ambient concentration of fine particulate matter (PM-2.5) in all monitored counties from 2003 baseline.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	6	15	16	20	28	29	31	32	Percent Reduction
Actual	23	26	26	29	29	Data Avail 12/2016			

Measure	(M92) Cumulative percentage reduction in the number of days with Air Quality Index (AQI) values over 100 since 2003, weighted by population and AQI value.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	33	37	50	80	80	80	81	83	Percent Reduction
Actual	70	73	72	74	79	Data Avail 12/2016			

Measure	(M94) Percent of major NSR permits issued within one year of receiving a complete permit application.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	78	78	78	78	78	78	78	78	Percent Issued
Actual	46	73	80	81	91	Data Avail 12/2016			

Measure	(M95) Percent of significant Title V operating permit revisions issued within 18 months of receiving a complete permit application.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	100	100	100	100	88	88	88	88	Percent Issued
Actual	82	84	86	91	91	Data Avail 12/2016			

Measure	(M96) Percent of new Title V operating permits issued within 18 months of receiving a complete permit application.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	99	99	99	99	75	75	75	75	Percent Issued
Actual	67	72	76	60	59	Data Avail 12/2016			

Measure	(MM6) Total number of backlogged SIPs remaining.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target				No Target	No Target	No Target	300-400	100-200	Number of Backlogged SIPs
Actual				699	649	557			

Measure	(MM7) Cumulative Percent of State Implementation Plans (SIPs) removed from the historical backlog.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target				0	20	40	60	84	Cumulative Percentage Removed
Actual				0	25	48			

Measure	(MM9) Cumulative percentage reduction in the average number of days during the ozone season that the ozone standard is exceeded in non-attainment areas, weighted by population.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	26	29	45	50	50	50	68	70	Percent Reduction
Actual	56	58	54	59	67	Data Avail 12/2016			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$5,993.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefits costs.
- (+\$946.0) This program change reflects an increases in support for web tools and technology infrastructure for activities across the program project.

- (+\$550.0 / +6.0 FTE) This program change reflects an increase to enhance EPA audits of state air laboratories to ensure that the quality of the monitoring data used for regulatory decisions is sound.
- (+\$2,824.0) This program change reflects an increase in support for the continued development of the Combined Air Emissions Reporting project. The project will streamline and integrate multiple emissions reporting, making it easier and more efficient for state, local, and tribal air agencies and industry to report required air emissions data and improve the quality of the data received.
- (+\$5,294.0) This program change reflects an increase in support for headquarters and regional implementation activities, many of which are increasingly complex. Critical to successful implementation is timely issuance of guidances, ongoing outreach to states and other entities as well as development of NAAQS implementation tool. For example, in implementing the 2015 Ozone NAAQS, the EPA will engage with states and develop guidance to assist air programs with meeting implementation deadlines. These critical resources also will support efforts to reduce the historical SIP backlog as well as ensure timeliness of review of incoming SIPs, permitting needs (both NAAQS and GHG-related), and air quality monitoring and analysis needs.
- (+\$12,024.0) This program change reflects an increase in support for critical work to implement the Clean Power Plan. The 111(d) existing source standard involves multiple complex regulatory processes and considerable state flexibility, which will require extensive work to develop program implementation infrastructure, evaluate state plans, and ensure consistent application of the emissions guidelines nationwide. These resources will be used to continue developing a standard reporting system for states to use, or adapt as needed, for submitting plans and tracking their compliance data, and to provide states with current data on the power system that will be needed for states to develop and implement their plans. As states submit their plans, the EPA will focus significant resources to reviewing state plans, including evaluating the information and analysis in state plans for adequacy and ensuring there is technical and analytical consistency between plans.
- (+\$10,000.0) This program change reflects an increase for contract funding for the agency to provide direct technical assistance to states as they conduct Clean Power Plan work and planning. These resources will be critical for the development of guidance, including associated data collection, evaluation, and analysis, on key topics such as energy efficiency, emission rate credits, and the Clean Energy Incentive Program (CEIP). These resources also will be used to provide trainings and enable peer exchanges across states, communities, and tribes on key Clean Power Plan issues.

Statutory Authority:

Clean Air Act.

Stratospheric Ozone: Domestic Programs

Program Area: Clean Air and Climate

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Restore and Protect the Ozone Layer

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$5,675.3	\$4,915.0	\$5,082.0	\$167.0
Total Budget Authority / Obligations	\$5,675.3	\$4,915.0	\$5,082.0	\$167.0
Total Workyears	21.8	22.0	22.0	0.0

Program Project Description:

The stratospheric ozone layer protects life by shielding the Earth's surface from harmful ultraviolet (UV) radiation. Scientific evidence demonstrates that ozone-depleting substances (ODS) used around the world destroy the stratospheric ozone layer and contribute to climate change.²³ Overexposure to increased levels of UV radiation due to ozone layer depletion is expected to continue to raise the incidence of skin cancer and other illnesses.²⁴ Skin cancer is the most common cancer in the U.S. One American dies almost every hour from melanoma, the deadliest form of skin cancer.²⁵ Increased UV levels are associated with other human and non-human effects, including cataracts, immune suppression, and effects on aquatic ecosystems and agricultural crops.

The EPA estimates that in the U.S. alone, the worldwide phase-out of ODS will avert millions of cases of non-fatal and fatal skin cancers (melanoma and non-melanoma), as well as millions of cataract cases.²⁶ Cataracts are the leading cause of blindness worldwide. The EPA's estimates regarding the U.S. health benefits from the ODS phase-out are based on the assumption that international ODS phase-out targets will be achieved, allowing the ozone layer to recover later this century. According to current atmospheric research, the ozone layer is not expected to recover until mid-century at the earliest, due to the long lifetimes of ODS in the stratosphere.²⁷ Most ODS also are potent greenhouse gases with high global warming potentials (GWPs). Therefore, the ODS phase-out has already resulted in significant climate benefits with a reported drop between 1988 and 2010 of about 8.0 gigatons of carbon dioxide equivalent per year.²⁸

²³ World Meteorological Organization (WMO). Scientific Assessment of Ozone Depletion: 2010. Global Ozone Research and Monitoring Project—Report No. 52, 516 pp., Geneva, Switzerland. 2011.

²⁴ Fahey, D.W., and M.I. Hegglin (Coordinating Lead Authors), Twenty questions and answers about the ozone layer: 2010 Update, In Scientific Assessment of Ozone Depletion: 2010, Global Ozone Research and Monitoring Project—Report No. 52, 516 pp., World Meteorological Organization, Geneva, Switzerland, 2011.

²⁵ American Cancer Society. "Skin Cancer Facts." Accessed February 2, 2013. Available on the internet at <http://www.cancer.org/Cancer/CancerCauses/SunandUVExposure/skin-cancer-facts>.

²⁶ U.S. Environmental Protection Agency (EPA). The Benefits and Costs of the Clean Air Act 1990-2010: EPA Report to Congress. EPA: Washington, DC. November 1999.

²⁷ WMO, 2011.

²⁸ HFCs: A Critical Link in Protecting Climate and the Ozone Layer, UNEP 2011.

The EPA's Stratospheric Ozone Protection Program implements provisions of the Clean Air Act Amendments of 1990 (CAA) and the *Montreal Protocol on Substances that Deplete the Ozone Layer* (Montreal Protocol), continuing the control and reduction of ODS in the U.S. and lowering health risks to the American public. A combination of regulatory and partnership programs are used to protect and restore the ozone layer and maximize climate benefits. The CAA provides for a phase-out of production and consumption of ODS and requires controls on their use, including banning certain emissive uses, requiring labeling to inform consumer choice, and requiring sound servicing practices for the use of ODS in various products (e.g., air conditioners and refrigerators). The CAA also prohibits venting ODS or their substitutes, including hydrofluorocarbons (HFCs) and requires listing of alternatives to reduce overall risk to human health or the environment.

Partnership programs are calibrated to increase benefits by focusing on specific areas where the agency has identified significant opportunities. The Responsible Appliance Disposal (RAD) Program²⁹ is a partnership that protects the ozone layer and reduces emissions of greenhouse gases through the recovery of ODS and HFCs from old refrigerators, freezers, air conditioners, and dehumidifiers prior to disposal. RAD has more than 60 partners, including manufacturers, retailers, utilities, and state governments. The GreenChill Partnership³⁰ helps supermarkets transition to environmentally-friendlier refrigerants, reduce harmful refrigerant emissions, and move to advanced refrigeration technologies, strategies, and practices that lower the industry's impact on the ozone layer and climate. The program now includes stores in all 50 states and nearly 30 percent of the United States' supermarkets. GreenChill partners are reducing refrigerant leak rates to half the estimated national average and developing annual plans for further improvements.

As a signatory to the Montreal Protocol, the U.S. is committed to ensuring that our domestic program is at least as stringent as international obligations and to regulating and enforcing the terms of the Protocol domestically. With 197 Parties and universal participation, the Montreal Protocol is the most successful international environmental treaty in existence.^{31,10,11} With U.S. leadership, the Parties to the Montreal Protocol agreed in 2007 to a more aggressive phase-out for ozone-depleting hydrochlorofluorocarbons (HCFCs). This adjustment to the Montreal Protocol requires dramatic global HCFC reductions during the period 2010-2040, equaling a 47 percent reduction in overall emissions compared to previous commitments under the Protocol. The 2007 adjustment also calls on Parties to promote the selection of alternatives to HCFCs that minimize environmental impacts, in particular impacts on climate.³²

FY 2017 Activities and Performance Plan:

In carrying out the requirements of the Clean Air Act and the Montreal Protocol in FY 2017, the EPA will continue to implement the domestic rulemaking agenda for control and reduction

²⁹ For more information, see: <http://www2.epa.gov/rad>.

³⁰ For more information, see: <http://www2.epa.gov/greenchill>.

³¹ See: http://ozone.unep.org/Publications/MP_Key_Achievements-E.pdf, http://www.eoearth.org/article/Montreal_Protocol_on_Substances_that_Deplete_the_Ozone_Layer, <http://ozone.unep.org/highlights.shtml> (Nov 2, 2009, entry).

³² *Montreal Protocol Decision XIX/6: Adjustments to the Montreal Protocol with regard to Annex C, Group I, substances (hydrochlorofluorocarbons)*.

of ODS. The Clean Air Act requires continuous review of alternatives through the EPA's Significant New Alternatives Policy (SNAP) program³³ to find those that pose less overall risk to human health and the environment. Through these evaluations, SNAP generates lists of acceptable and unacceptable substitutes for each of the major industrial use sectors. In the more than twenty years since the initial SNAP rule was promulgated, the EPA has modified the SNAP lists many times. The intended effect of the SNAP program is to promote a smooth transition to safer alternatives. Consistent with the Climate Action Plan announced June 25, 2013, the EPA will "encourage private-sector investment in low-emissions technology by identifying and approving climate-friendly chemicals while prohibiting certain uses of the most harmful chemical alternatives."³⁴ The EPA is receiving and responding to an increased number of SNAP applications, many of which present options with lower GWPs. In FY 2017, the EPA will focus on adding new alternatives to the list of acceptable alternatives and changing the status of high-GWP HFCs where alternatives that present a lower overall risk are available. The EPA will provide compliance assistance for rules controlling ODS production, import, and emission.

In FY 2017, the EPA will consider the suite of available substitutes for many of approximately 50 end uses (e.g., appliance foam-blowing agents, commercial refrigeration, air-conditioning) in eight industrial sectors, and with the listing of new alternatives, review previous decisions, as necessary. In addition to being more climate-friendly, many of these new alternatives warrant increased focus because they offer significant energy efficiency gains as part of the overall transition. A robust list of climate-friendly options also will create a vital resource as Federal procurement officials respond to the Administration's call "to purchase cleaner alternatives to HFCs whenever feasible and transition over time to equipment that uses safer and more sustainable alternatives."³⁵

In FY 2017, the EPA will continue its efforts under Section 608 of the Clean Air Act to reduce emissions of both ODS and high-GWP substitute refrigerants, including HFCs, during the service, maintenance, repair and disposal of air conditioning and refrigeration equipment. The EPA also will work to implement new rules that have been proposed - strengthening and then extending a fuller range of those requirements to HFCs.

In FY 2017, the EPA will focus its work to ensure that the United States continues to meet its ODS production and import caps under the Montreal Protocol and Clean Air Act. The CAA requires reductions and a schedule for phasing out the production and import of ODS. These requirements correspond to the domestic consumption cap for class II HCFCs as set by the Parties to the Montreal Protocol. Each ODS is weighted based on its ozone depleting potential. As of January 1, 2015, ODS production and imports were capped at 1,524 ODP-weighted metric tons, which is 10 percent of the U.S. baseline under the Montreal Protocol. In 2020, U.S. production and import will be reduced further, to 0.5 percent of the U.S. baseline, and in 2030, all ODS production and import will be phased out, except for any potential exempted amounts.

With the decline in allowable HCFC production, a significant stock of air conditioning and refrigeration equipment that continues to use HCFCs will need access to recovered and

³³ For more information, see: <http://www.epa.gov/ozone/snap/index.html>.

³⁴ *The President's Climate Action Plan*, June 2013.

³⁵ *The President's Climate Action Plan*, June 2013.

recycled/reclaimed HCFCs to ensure proper servicing. The EPA reviews available market data to ensure that future demand for virgin HCFCs can be satisfied under production and import caps. The EPA also will implement other provisions of the Montreal Protocol, including exemption programs to allow for a continued smooth transition from ODS to alternatives.

Additionally, the EPA will continue to work with federal and international agencies to stem illegal imports of ODS. The EPA will continue data exchange with U.S. Customs and Border Protection and Homeland Security Investigations on ODS importers and exporters for Customs to determine admissibility and target illegal ODS shipments entering the U.S. The EPA also will continue education and outreach to manufacturers and importers of HCFC labeling requirements. These additional efforts foster the smooth transition to non-ozone depleting alternatives in various sectors.

Performance Targets:

Measure	(S01) Remaining US Consumption of hydrochlorofluorocarbons (HCFCs), chemicals that deplete the Earth's protective ozone layer, measured in tons of Ozone Depleting Potential (ODP).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	<3,811	<3,811	<3,700	<3,700	<3,700	<1,520	<1,520	<1,520	ODP Tons
Actual	2,435	2,339	1,450	1,640	Data Avail 4/2016	Data Avail 12/2016			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$165.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$2.0) This program change reflects an increase for international engagement and assistance to support adoption and implementation of the HFC Amendment.

Statutory Authority:

Title VI of the Clean Air Act.

Stratospheric Ozone: Multilateral Fund

Program Area: Clean Air and Climate

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Restore and Protect the Ozone Layer

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$8,913.0	\$8,928.0	\$9,057.0	\$129.0
Total Budget Authority / Obligations	\$8,913.0	\$8,928.0	\$9,057.0	\$129.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The ozone layer in the stratosphere protects life on Earth by preventing harmful ultraviolet (UV) radiation from reaching the Earth's surface. Scientific evidence amassed over the past 35 years demonstrates that ozone-depleting substances (ODS) used around the world destroy the stratospheric ozone layer and contribute to climate change.³⁶ Increased levels of UV radiation, due to ozone depletion, contribute to increased incidence of skin cancer, cataracts, and other health effects.³⁷ Skin cancer is the most common cancer, accounting for nearly half of all cancers.³⁸ Increased UV levels also are associated with other human and non-human effects, including immune suppression and effects on aquatic ecosystems and agricultural crops.³⁹

The *Montreal Protocol on Substances that Deplete the Ozone Layer* (Montreal Protocol) is the international treaty designed to protect the ozone layer by facilitating a global phaseout of ODS. The Montreal Protocol is the only treaty in the United Nations system to ever achieve universal ratification with 197 Parties. The United States implements its treaty obligations primarily through Title VI of the Clean Air Act. The EPA estimates that in the United States alone, the worldwide phase-out of ODS will avert millions of cases of non-fatal and fatal skin cancers (melanoma and non-melanoma)⁴⁰ and millions of cataract cases between 1990 and 2165.⁴¹ According to current research, the ozone layer is expected to recover later this century. This long recovery period is due to the long atmospheric lifetime of ODS.⁴² These estimates of ozone layer recovery assume full implementation of the Montreal Protocol by all developed and developing countries.

³⁶ World Meteorological Organization (WMO). *Scientific Assessment of Ozone Depletion: 2010*. Geneva, Switzerland. 2011.

³⁷ Fahey, D.W., and M.I. Hegglin (Coordinating Lead Authors), Twenty questions and answers about the ozone layer: 2010 Update, In *Scientific Assessment of Ozone Depletion: 2010, Global Ozone Research and Monitoring Project–Report No. 52*, 516 pp., World Meteorological Organization, Geneva, Switzerland, 2011.

³⁸ American Cancer Society. "Skin Cancer Facts." Accessed August 9, 2010. Available on the Internet at <http://www.cancer.org/Cancer/CancerCauses/SunandUVExposure/skin-cancer-facts>.

³⁹ United Nations Environment Programme (UNEP), *Environmental Effects of Ozone Depletion and Its Interactions with Climate Change: 2010 Assessment*. Nairobi, Kenya, 2011.

⁴⁰ U.S. Environmental Protection Agency (EPA). *The Benefits and Costs of the Clean Air Act 1990-2010: EPA Report to Congress*. EPA: Washington, DC. November 1999.

⁴¹ *Protecting the Ozone Layer Protects Eyesight – A Report on Cataract Incidence in the United States Using the Atmospheric and Health Effects Framework Model*. Accessed August 9, 2010. Available on the Internet at: <http://www.epa.gov/ozone/science/effects/AHEFCataractReport.pdf>.

⁴² WMO, 2011.

The *Multilateral Fund for the Implementation of the Montreal Protocol* (Multilateral Fund) was created by the Parties to the Montreal Protocol to provide funds to enable developing countries to comply with their Montreal Protocol obligations to phase out the use of ODS on an agreed schedule. The United States and other developed countries contribute to the Multilateral Fund to support projects and activities in over 140 developing countries to eliminate the production and use of ODS. As ODS also are powerful greenhouse gases,⁴³ the assistance provided by the Fund since 1990 has served to eliminate more than 189,000 teragrams of carbon dioxide equivalent (Tg CO₂eq).⁴⁴

The U.S. contribution to the Multilateral Fund, which is split between the EPA and the Department of State, is 22 percent of the total based on the United Nations scale of assessment. The Multilateral Fund draws heavily on U.S. expertise and technologies. In addition, the permanent seat of the United States on the Multilateral Fund's governing body (the Executive Committee) can help focus efforts on cost-effective assistance and encourage climate-friendly transitions.

In 2007, the Parties to the Montreal Protocol agreed to adjust and accelerate the phase-out required for ozone-depleting hydrochlorofluorocarbons (HCFCs). This adjustment involves dramatic HCFC reductions on the order of 47% during the period from 2010-2040. Most of these reductions will occur in developing countries. As HCFCs are strong greenhouse gases, this faster phase-out also will result in large reductions in greenhouse gas emissions. The agreed text supporting the 2007 HCFC adjustment to the Protocol committed donor countries, including the United States, to provide "stable and sufficient" funding to the Multilateral Fund to enable developing country compliance with the new requirements.⁴⁵

In addition to supporting the phaseout of ODS, the Parties to the Protocol have been discussing using the Montreal Protocol to phase down Hydrofluorocarbons (HFCs), a class of chemicals that are predominantly used as alternatives to ODS. While they do not deplete the ozone layer, many HFCs are highly potent greenhouse gases whose use is growing rapidly as replacements for phased-out ODS in refrigerators, air conditioners, and industrial applications. Left unabated, HFC emissions could grow to nearly 20 percent of carbon dioxide emissions by 2050, making them a serious climate mitigation concern.⁴⁶ U.S. HFC emissions are expected to nearly double by 2020 and triple by 2030.⁴⁷

Over the past six years, the United States, Canada and Mexico have jointly been pursuing an amendment to the Montreal Protocol to phase down the production and consumption of HFCs. The proposed amendment would reduce consumption and production and control byproduct emissions of HFCs in all countries, and would enable countries that can already access the Montreal

⁴³ Velders, Guus J.M. et. al., "Preserving Montreal Protocol Climate Benefits by Limiting HFCs," *Science*, 24 February 2012.

⁴⁴ United Nations Environment Programme (UNEP), *The Montreal Protocol and the Green Economy: Assessing the contributions and co-benefits of a Multilateral Environmental Agreement*. Nairobi, Kenya, 2012. Also the website of the Multilateral Fund <http://www.multilateralfund.org/default.aspx>.

⁴⁵ Decision XIX/6, from the 19th Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer.

⁴⁶ <https://www.whitehouse.gov/the-press-office/2013/09/06/united-states-china-and-leaders-g-20-countries-announce-historic-progress>.

⁴⁷ <https://www.whitehouse.gov/the-press-office/2014/09/16/fact-sheet-obama-administration-partners-private-sector-new-commitments>.

Protocol's Multilateral Fund to receive financial assistance to facilitate their HFC phase down.⁴⁸ Adoption of an amendment similar to what was proposed in 2015 would result in a global reduction of over 90,000 Tg CO₂eq cumulative by 2050.⁴⁹ This effort is in keeping with the President's Climate Action Plan,⁵⁰ which called on the United States to lead through international diplomacy and domestic action to reduce emissions of HFCs. In November 2015, the Meeting of the Parties to the Montreal Protocol sent a clear signal by agreeing to the *Dubai Pathway on HFCs*, which is an agreement to work to an HFC amendment in 2016.

FY 2017 Activities and Performance Plan:

The EPA's contributions to the Multilateral Fund in FY 2017 will help continue support for cost-effective projects designed to build capacity and eliminate ODS production and consumption in over 140 developing countries. Through 2015, the Multilateral Fund had supported over 7500 activities in 146 countries that, when fully implemented, will have phased out more than 460,000 ODS tons. Additional projects will be submitted, considered, and approved in accordance with Multilateral Fund guidelines.

In 2017, the United States will continue to promote developing country transitions from ODS directly into low-global warming potential (GWP) alternatives. This work will support developing country compliance with the Protocol while also supporting the development and deployment of low-GWP technologies and the potential phase down of HFCs.

Performance Targets:

Work under this program supports performance results in the Stratospheric Ozone: Domestic Program under the Environmental Programs and Management appropriation. These measures can be found in the Eight-year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$129.0) This program change reflects an increase to help fund capacity building projects in developing countries for the purpose of eliminating ODS production and consumption.

Statutory Authority:

Title VI of the Clean Air Act.

⁴⁸ <http://conf.montreal-protocol.org/meeting/mop/mop-25/presession/default.aspx>.

⁴⁹ U.S. Environmental Protection Agency, *Benefits of Addressing HFCs under the Montreal Protocol*, July 2014, accessible at: <http://www.epa.gov/ozone/intpol/mpagreement.html>.

⁵⁰ Executive Office of the President, *The President's Climate Action Plan*, June 2013, The White House, Washington, 2013.

Program Area: Brownfields

Brownfields

Program Area: Brownfields

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Promote Sustainable and Livable Communities

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$25,055.0</i>	<i>\$25,593.0</i>	<i>\$25,906.0</i>	<i>\$313.0</i>
Total Budget Authority / Obligations	\$25,055.0	\$25,593.0	\$25,906.0	\$313.0
Total Workyears	132.4	149.8	149.8	0.0

Program Project Description:

The Brownfields program awards grants and provides technical assistance to states, tribes, local communities, and other stakeholders involved in environmental revitalization and economic redevelopment to work together to plan, inventory, assess, safely cleanup, and reuse brownfields. Brownfield sites are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Brownfields redevelopment is a key to revitalizing downtown areas, neighborhoods, and rural communities, thereby increasing property values and creating jobs while at the same time addressing human health and environmental risks. Since its inception, the Brownfields program has fostered a unique, community-driven approach to reuse contaminated sites. The thousands of grants awarded by the program have led to a visible difference in communities across the country, where over 44,200 acres of idle land have been made ready for productive use and over 106,000 jobs and \$23.3 billion have been leveraged.⁵¹

This program comprises the administrative components necessary to effectively manage brownfields cooperative agreements. This includes the support for: 1) conducting the annual, high volume cooperative agreement competitions; 2) staffing to manage the current cooperative agreement workload and award new cooperative agreements; 3) providing technical assistance for communities; 4) facilitating collaboration with other agency programs; 4) operating the Assessment Cleanup and Redevelopment Exchanges System (ACRES) on-line grantee reporting tool; 5) assisting communities to explore land reuse opportunities under the Land Revitalization Program; and 6) organizing a potential Brownfields Training Conference.

This program also develops guidance and tools that clarify potential environmental cleanup liabilities, thereby providing greater certainty and comfort for parties seeking to reuse these properties. The program also can provide direct support to parties seeking to reuse contaminated properties in order to facilitate transactions through consultations and the use of enforcement tools.

The Brownfields program employs smart growth and sustainable design approaches in brownfield redevelopment. The smart growth activities include: (1) working with state and local governments, private sector and other stakeholders to create cross-cutting solutions that improve the economic

⁵¹ The EPA's ACRES database.

and institutional climate for brownfields redevelopment; (2) removing barriers and creating incentives for brownfields redevelopment; and (3) ensuring improved water and air quality in brownfields redevelopment.

Brownfields sites are often in the heart of America's downtowns and former economic centers. Reclaiming these vacant or underutilized properties and repurposing them is at the core of the EPA's community revitalization efforts. In looking at census data, the EPA found that approximately 104 million people (roughly 33 percent of the U.S. population) live within three miles of a Brownfields site that received EPA funding, including 35 percent of all children in the U.S. under the age of five.⁵² By awarding brownfields grants, the EPA is making investments in communities so that they can realize their visions for environmental health, economic growth, job creation, and advancing social goals. The EPA will continue to invest in some of the communities identified in the President's Investing in Manufacturing Communities Partnership (IMCP) initiative. The EPA is involved in the IMCP initiative to support the sites which have past industrial uses, have access to a ready workforce that through training can participate in the cleanup, have redevelopment and end uses, and are located near established universities and research and development (R&D) centers.

As further evidence of the success of the brownfields program, a 2015 study concluded that cleaning up brownfield properties leads to residential property value increases of 5 to 11.5 percent.¹ Based on historical data provided by the ACRES database, \$1 of the EPA's Brownfields funding leverages between \$17 and \$18 in other public and private funding. Additionally, the EPA's research has shown that redeveloping a brownfields site rather than a greenfield (undeveloped) site has significant environmental benefits, including reducing vehicle miles traveled and related emissions by 32 to 57 percent, and reducing stormwater runoff by an estimated 47 to 62 percent.⁵³ Revitalizing these once productive properties helps communities by: removing blight; improving environmental conditions; providing public health benefits; satisfying the growing demand for land; helping to limit urban sprawl; fostering ecologic habitat enhancements; enabling economic development; and, maintaining or improving quality of life.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA's Brownfields program will continue to manage a significant workload of assessment, cleanup, revolving loan fund (RLF), area-wide planning, and Environmental Workforce Development and Job Training cooperative agreements, along with state and Tribal assistance agreements, training, research and technical assistance agreements, and Land Revitalization projects. Project officers for these grants negotiate and award new cooperative agreements as part of current workload as well as manage the grants throughout their full life-cycle.

⁵² Haninger, Kevin, Lala Ma, and Christopher Timmins. 2015. "The Value of Brownfield Remediation" National Bureau of Economic Research Working Paper No.20296. Posted July 2014, Revised September 2015, <http://www.nber.org/papers/w20296.pdf>.

⁵³ U.S. Environmental Protection Agency Office of Solid Waste and Emergency Response Office of Brownfields and Land Revitalization, Washington, DC 20460, April 2011, EPA 560-F-10-232: <http://www.epa.gov/sites/production/files/2015-09/documents/bfenvironmentalimpacts042811.pdf>.

The FY 2017 budget focuses on the agency's capability to provide; 1) administrative and technical support to the EPA Regional Offices; 2) the necessary contractual support to manage the program's numerous grant funding competitions and brownfields and land revitalization projects; 3) staff to manage the significant cooperative agreement workload; and 4) staff and contractual support to manage and upgrade the ACRES database that collects data from grantees regarding the specific activities and environmental outcomes of the grant funding. The work of the Brownfields program also contributes to the Agency Priority Goal to clean up contaminated sites to enhance the livability and economic vitality of communities.

This program will support the following activities in FY 2017:

- **Award of New Cooperative Agreements:** Development of the cooperative agreement funding solicitations, and the selection, award and ongoing management of the approximately 500 additional grant awards. The EPA brownfields grants are administered through cooperative agreements. As part of its grants management role, the EPA will ensure that applicable grant management requirements are met by the recipient. This is supported through EPA personnel and contracts for competition support.
- **Oversight and Management of Existing Cooperative Agreements:** Oversee and manage hundreds of existing brownfields cooperative agreements, including travel to communities and organizing workshops and other training opportunities for both new and existing brownfields grantees, as well as communities interested in applying for a brownfields grant.
- **Technical Assistance:** Provide technical assistance to states, tribes, and other communities in the form of research, training, and analyses. This can lead to appropriate and cost effective implementation of brownfields redevelopment projects by providing communities the knowledge necessary to understand market conditions, evaluate technical and economic alternatives available, and understand potential obstacles to implementing effective and economically productive solutions. Technical assistance will include increased aid to RLF grant recipients to help these grantees in applying best management techniques for awarding loans and revolving program income. Technical assistance to grantees has proven valuable and needed in today's economy. The EPA's assistance provides crucial help in addressing important redevelopment issues.
- **Collaboration:** Collaborate with other agency programs, such as air, water, and enforcement, to advance approaches for brownfields cleanup and redevelopment that will improve environmental outcomes, such as reducing vehicle miles traveled, reducing stormwater runoff and pollutant loading, deconstruction and sustainable materials management, and encouraging energy efficient reconstruction. The Brownfields program will continue to identify opportunities to support communities whose vision includes the revitalization of brownfields and other contaminated properties for historic property, habitat preservation, conservation, and recreational purposes, as well as collaborate with partner agencies and communities in identifying critical resources that may be appropriately employed in pursuit of restoring and protecting our land. The program will continue to work collaboratively with our partners at the state and local level on innovative approaches to help achieve the agency's land reuse priorities.

It also will continue to develop guidance and tools to provide greater certainty and comfort regarding potential liability concerns for parties seeking to reuse these properties.

- **Progress Tracking:** Support the maintenance of the ACRES online grantee reporting tool. This is a critical tool for the program and grantees to track accomplishments and report on the number of sites assessed and cleaned up, and the amount of dollars and jobs leveraged with brownfields grants.
- **Address Land Reuse Implementation Issues:** Address critical issues for brownfields redevelopment, including the strategic acquisition of properties to support community revitalization goals, development permitting issues, financing, parking and street standards, accountability to uniform systems of information of land use controls, and other factors that influence economic viability of brownfields redevelopment and support their sustainable reuse. The best practices, tools, and lessons learned from the smart growth program will directly inform and assist the EPA's efforts to increase area-wide planning for assessment, cleanup, and redevelopment of brownfields sites.
- **Land Revitalization Program Support:** Provide EPA personnel and contract support for communities as part of the EPA's Land Revitalization program. The Land Revitalization program supports communities in their efforts to restore contaminated lands into sustainable community assets that maximize beneficial economic, ecological, and social uses. Both the Land Revitalization and Brownfields programs assist communities recovering from economic hardship, particularly those areas affected by the closing of manufacturing facilities, by finding solutions for the assessment, cleanup and repurposing of former manufacturing and auto industry properties. It remains an agency priority to assist these communities in finding solutions that transform these properties into communities once again. The Land Revitalization and Brownfields programs assist these communities with planning, training, and technical assistance.
- **National Brownfields Training Conference:** Host the National Brownfields Training Conference, the largest and most comprehensive conference in the nation focused on environmental revitalization and economic redevelopment issues. The EPA is exploring options to hold the next Brownfields Conference in calendar year 2017. To offset the cost of planning and delivering the conference, the EPA plans to continue charging a registration fee. For the 2015 conference, registration fees offset the total cost by 40 percent.

Performance Targets:

Work under this program supports performance results in the Brownfields Projects and Brownfields Categorical Grants programs under the STAG appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$1,659.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.

- (-\$1,346.0) This program change reduces training resources for brownfields communities, which could impact training through the National Brownfields Training Conference and other contract based technical assistance.

Statutory Authority:

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Small Business Liability Relief and Brownfields Revitalization Act, §§ 101, 104, 107, 128; Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, § 8001.

Program Area: Compliance

Compliance Monitoring

Program Area: Compliance

Goal: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

Objective(s): Enforce Environmental Laws to Achieve Compliance

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Inland Oil Spill Programs	\$136.3	\$139.0	\$160.0	\$21.0
<i>Environmental Program & Management</i>	<i>\$103,440.4</i>	<i>\$101,665.0</i>	<i>\$111,270.0</i>	<i>\$9,605.0</i>
Hazardous Substance Superfund	\$1,001.7	\$995.0	\$1,099.0	\$104.0
Total Budget Authority / Obligations	\$104,578.4	\$102,799.0	\$112,529.0	\$9,730.0
Total Workyears	508.8	539.6	539.6	0.0

Program Project Description:

The Compliance Monitoring program's goal is to promote compliance with the nation's environmental laws and protect human health and the environment through inspections and other compliance monitoring activities. Compliance monitoring is comprised of activities that determine whether regulated entities are in compliance with applicable laws, regulations, permit conditions, and settlement agreements. In addition, compliance monitoring activities are conducted to determine whether conditions exist that may present imminent and substantial endangerment to human health and the environment. Compliance monitoring activities include data collection, analysis, data quality review, on and off site compliance inspections/evaluations, investigations, and reviews of facility records and monitoring reports.⁵⁴

The program's efforts complement state and Tribal programs to ensure compliance with laws throughout the United States. The EPA coordinates, supports, and oversees the performance of states, local agencies, territories, and Tribal governments that conduct compliance monitoring activities. The program also provides technical assistance and training to federal, state, territorial and Tribal inspectors. The EPA works with states and tribes to identify where these monitoring, inspection, evaluation, and investigation activities will have the greatest impact on achieving environmental results.

FY 2017 Activities and Performance Plan:

The EPA has achieved impressive pollution control and health benefits through vigorous compliance monitoring and enforcement, but traditional enforcement methods will not address all non-compliance problems. The sheer number of regulated facilities, the pollution from large numbers of smaller sources, and limited resources means that the traditional single facility inspection and enforcement approach cannot be relied on solely as our only way to achieve widespread compliance with the nation's environmental laws. As a result, the agency needs to adapt

⁵⁴ For more information, refer to: <http://www.epa.gov/compliance/compliance-monitoring-programs>.

to the modern era by developing and implementing new methods that rely heavily on advances in both monitoring and information technology.

Recognizing that traditional enforcement approaches will not be sufficient to address noncompliance problems, the EPA continues to focus efforts on moving to the “next generation” of compliance. This approach, called Next Generation Compliance, has been formalized in the agency’s FY 2014-2018 Strategic Plan. Next Generation Compliance aims to increase compliance with environmental regulations by capitalizing on advances in information technology and advanced pollutant detection technology. These advanced technologies, combined with a focus on designing rules and permits that are easier to implement, will improve compliance, expand transparency, and protect communities while reducing costs for the federal government, states, territories, tribes and regulated facilities.⁵⁵ There are five main components to this initiative: 1) structuring our regulations to be easier to implement and achieve higher compliance; 2) using advanced pollutant detection technology to find out about pollution as it happens in real-time; 3) moving from paper to electronic reporting to enhance government efficiency and reduce paperwork burden; 4) making pollution and compliance information more accessible, user-friendly, and available to the public to promote accountability; and 5) using innovative approaches to enforcement to focus limited resources on the biggest pollution problems. As one example of this approach, in FY 2015, the agency conducted a state solicitation of interest to determine if states and local agencies would be interested in obtaining advanced monitoring equipment including infrared (IR) cameras. The equipment was used to identify organic gas emissions from equipment, such as valves, flanges and tanks, thus improving the states’ ability to ensure compliance and protect communities.

Next Generation Compliance complements E-Enterprise for the Environment, a 21st-century strategy – jointly governed by states and the EPA – to modernize government agencies’ delivery of environmental protection in the United States. The E-Enterprise business strategy is an integral part of an agencywide effort to launch a new era of state, local, Tribal, and international partnerships. Under this strategy, the agency will streamline its business processes and systems to reduce reporting burden on states and regulated facilities, and improve the effectiveness and efficiency of regulatory programs for the EPA, states, and tribes. There are several projects underway and resources are expected to accelerate and expand those activities which will bring significant efficiencies to the EPA, states, tribes and industry.

In FY 2017, the agency will continue to work on increasing the efficiency of the inspection process, including partnering with states to develop and implement electronic reporting tools for the National Pollutant Discharge Elimination System (NPDES) and supporting transparency through the modernized Enforcement and Compliance History Online (ECHO). The program will continue its efforts to leverage technology and modernize business processes internally and in how we interact with our partners, the regulated community and the public. These efforts are anticipated to result in savings to the regulated community (e.g. electronic reporting), and also streamline internal EPA processes (e.g. mobile business solutions for field inspectors). In FY 2017, resources will support the following areas:

⁵⁵ For more information, refer to the September/October 2013 article in the Environmental Forum on Next Generation Compliance. <http://www.epa.gov/compliance/article-next-generation-compliance>.

Expand Full Electronic Interaction. The agency will move forward with efforts to streamline key paper reporting regulations by converting to an electronic format. Replacing paper based reporting will decrease unnecessary paperwork burdens on industry and also improve the efficiency of the EPA and state partners. In September 2015, the EPA finalized a new rule to convert the NPDES paper based reporting systems to a more effective and efficient electronic based system. Implementation of the new rule will begin in calendar year 2016. States and the EPA will start receiving the first electronic reporting in FY 2017 for Discharge Monitoring Reports (DMRs) – the largest data flow in the NPDES program that accounts for the largest portion of the expected burden reduction. The EPA also is developing an exporter interface to enable exporters of hazardous waste to submit notification data electronically to the EPA, in order to avoid the expense and errors associated with manual entry and to facilitate more accurate and effective compliance monitoring.

The agency will continue to modernize its internet-accessible, national enforcement and compliance data system, the Integrated Compliance Information System (ICIS), which supports both compliance monitoring and civil enforcement. Completion of ICIS's three phases of development is targeted for FY 2017. In FY 2015, the AFS legacy mainframe system was decommissioned and ICIS-Air Phase 1 was released. Future releases of ICIS-Air are projected for FY 2016 and FY 2017 to provide new functionality consistent with the agency's Next Generation Compliance and E-Enterprise principles (e.g., electronic reporting). ICIS modernization advances the EPA's integration of environmental compliance and enforcement information into one system, with major components including federal enforcement and compliance information and data from the NPDES program and Clean Air Act stationary sources.

The EPA will focus on enhancing its data systems to support full electronic interaction with regulated facilities via fillable forms, providing more comprehensive and accessible data to the public through the interactive public web site Enforcement and Compliance History Online (ECHO),⁵⁶ and allowing for improved integration of environmental information with health data and other pertinent data sources from other federal agencies and private sources. The EPA will continue to develop additional tools and obtain new data sets (e.g., geospatial) for public use, allowing communities to stay informed and proactively address environmental challenges. Also, the EPA will continue to enhance its data analytical capabilities allowing the EPA and states to identify environmental priorities more efficiently. In FY 2014, the EPA initiated a set of pilot projects to generate evidence for the use of data analytics in inspection targeting. The ongoing pilots are designed to better understand the technology, implementation issues, cost structure, and advantages that these new approaches may offer. The EPA is considering field testing these results in FY 2016 and FY 2017. The agency also will build staff expertise and the infrastructure to work with large, complex datasets.

In the last two years, the EPA has developed State Performance Dashboards and Comparative Maps that provide the public with information about the performance of state and the EPA's enforcement and compliance programs across the country. The ECHO website was modernized to improve system efficiency while providing a more up-to-date, easy-to-use interface for the public. ECHO and its powerful companion tool for regulators, ECHO Gov, provide the public and more than 650 registered government users with information on facility compliance, pollutant releases, and environmental quality, averaging more than 180 thousand page views per month. In FY 2015,

⁵⁶ For more information, refer to: <http://www.epa-echo.gov/echo/>.

ECHO modernization was completed and additional enforcement and compliance media specific (e.g., Safe Drinking Water Act) performance dashboards were developed, increasing public transparency. In FY 2016 and FY 2017, ECHO will incorporate new features to improve user access and transparency. New content will be added that makes it easier for users to analyze Clean Air Act pollution release data in conjunction with existing enforcement data. ECHO also will introduce enhanced state dashboards for SDWA and FIFRA, improved usability for mobile devices, and a series of new reports associated with electronically reported data expected under the Clean Air Act and Clean Water Act.

Design Regulations to Improve Compliance. The program will continue its research and training on principles and tools for how to develop more effective rules and permits. As part of the process of developing new rules, the EPA is integrating Next Generation Compliance principles and tools to create regulations that are more effective and efficient. This includes approaches such as self-monitoring and/or self-certification, third party certification, and transparency to promote public accountability. Next Generation Compliance focuses on structuring regulations to be easier to understand and implement, resulting in higher compliance.

Test and Pilot Advanced Monitoring Technologies. The EPA will pilot remote water monitoring sensors and air loadings tools to collect emissions and discharge data, and will include these technologies in the EPA's enforcement settlements as appropriate to address and remedy violations. The agency expects that these technologies will improve our analytical and targeting capabilities and enhance the public's knowledge about the quality of their environment. The Compliance program will participate in developing and implementing a new agency program to test, validate and provide communities with advanced monitoring equipment.

Smart Tools for Field Inspectors. The EPA will expand software solutions for field inspectors to allow them to transfer data from the field into the agency's data systems. The EPA plans to implement a software solution to improve the effectiveness and efficiency of how the EPA and states conduct RCRA Subtitle C inspections in FY 2016. RCRA Subtitle C regulates hazardous wastes from cradle to grave (e.g., generation; transportation; and treatment, storage or disposal). The EPA plans to begin to develop inspector software in a phased approach for the Clean Water Act and the Clean Air Act in FY 2017. The Compliance program will coordinate the development of these Smart Tools for inspectors so that they can be leveraged by the states, thus improving the effectiveness of state compliance monitoring programs and saving states the cost of developing these tools themselves.

The EPA establishes National Enforcement Initiatives every three years to address the most serious pollution problems affecting communities.⁵⁷ The initiatives focus on industry sectors or sources of pollution that the EPA believes can best be addressed by a national enforcement approach, and employ traditional enforcement approaches in conjunction with innovative evidence-based approaches. In FY 2015, the National Enforcement Initiative for cutting hazardous air pollutants resulted in reductions of an estimated 3.8 million pounds of air toxics, pollutants that are known or suspected to cause cancer, birth defects, and seriously impact the environment. In FY 2015, the agency's Compliance Monitoring program analyzed data and consulted with stakeholders to consider candidates for the National Enforcement Initiatives for FY 2017 – FY 2019.

⁵⁷ For more information, refer to: <http://www.epa.gov/enforcement/national-enforcement-initiatives>.

To ensure the quality of compliance monitoring activities, the EPA is continuing to develop national policies, update inspection manuals, provide required training for inspectors, and issue inspector credentials. The EPA's National Enforcement Training Institute (NETI) is responsible for providing on-line, e-learning courses for the 2,500 plus inspectors subject to EPA Order 3500.1. There are more than 90 on-line courses in the NETI e-Learning Center. In addition, NETI offered more than 100 webinars to the inspector-lawyer-case development corps, many with Continuing Legal Education Credits. In FY 2015, NETI provided more than 250 hours of live training. In FY 2017, the NETI will continue to conduct training to ensure federal, state, local, and Tribal environmental enforcement professionals are: knowledgeable of environmental requirements and policies; technically proficient in conducting compliance inspections/evaluations and taking samples; and skilled at interviewing potential witnesses and documenting inspection/evaluation results. The EPA will continue developing web-based environmental enforcement training courses that feature current e-learning techniques. These e-learning courses will provide continual access to training for federal, state, local, territorial, and Tribal environmental compliance and enforcement personnel, while reducing training and related travel costs.

The EPA will continue to review all notices for trans-boundary movement of hazardous waste and for export of cathode ray tubes and spent lead acid batteries to ensure compliance with domestic regulations and international agreements. The agency ensures that these wastes are properly handled in accordance with international agreements and Resource Conservation and Recovery Act regulations.⁵⁸ The EPA utilizes electronic data exchange on a government-to-government basis with Environment Canada and with the Mexican environmental agency, SEMARNAT, to assure more timely and accurate transmission of notice information for compliance monitoring purposes. While the vast majority of the hazardous waste trade occurs with Canada,⁵⁹ the United States also has international hazardous waste trade agreements with Mexico, Malaysia, Costa Rica, and the Philippines. Further, the United States is a member of the Organization for Economic Cooperation and Development, which issued a Council Decision controlling trans-boundary movements of hazardous waste among member countries. In FY 2015, the EPA responded to 2,269 notices representing 743 import notices and 1,526 export notices.

For more effective compliance monitoring, the EPA is enhancing the capabilities of its Waste Import Export Tracking System (WIETS) for tracking RCRA imports and exports to interface with the Automated Commercial Environment (ACE) system of US Customs and Border Protection, in order to interdict illegal hazardous waste exports at ports. The WIETS system also will interface with US exporters to allow e-filing with the EPA of notices of intent to export hazardous waste from the United States and annual export reports summarizing shipments made.

In FY 2017, the program will support the agency's Cross Agency Strategy for Making a Visible Difference in Communities and supports the training and integration of advanced monitoring equipment and a new regional, state, and community equipment loan program.

⁵⁸ For more information, refer to: <http://www3.epa.gov/epawaste/hazard/international/agree.htm>.

⁵⁹ For more information, refer to: <http://www.epa.gov/osw/hazard/international/imp-exp.htm>.

Performance Targets:

Measure	(409) Number of federal inspections and evaluations.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			19,000	17,000	17,000	15,500	15,500	15,500	Inspections/ Evaluations
Actual			20,000	18,000	16,000	15,400			

Measure	(412) Percentage of open consent decrees reviewed for overall compliance status.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			100	100	100	100	100	100	Percent
Actual			91	91	100	99			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$4,534.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$1,800.0) This program change reflects an increase in funding for activities under the agency’s E-Enterprise business strategy which includes partnering with states to develop and implement electronic reporting tools leveraging the E-Enterprise portal as appropriate for the National Pollutant Discharge Elimination System (NPDES) and modernizing the Enforcement and Compliance History Online (ECHO) which is an interactive web site providing comprehensive data to the public.
- (+\$766.0) This program change supports the agency’s Cross Agency Strategy for Making a Visible Difference in Communities. The increased funding supports the integration of advanced monitoring equipment by addressing the cross-media legal, policy, and programmatic issues associated with providing funding to support the purchase, training and integration of advanced monitoring equipment and a new regional, state, and community equipment loan program.
- (+\$2,505.0) This program change reflects an increase in funding for the Compliance Monitoring program enabling inspectors to carry out inspections efficiently through technology and data, to better detect violations, and to provide the infrastructure necessary to support a comprehensive monitoring program. The support includes funding for laboratory analysis, data systems, equipment and mandatory inspector training.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA’s organic statute); Act to Prevent Pollution from Ships (MARPOL Annex VI); Asbestos Hazard Emergency Response Act; Atomic Energy Act; Clean Air Act; Certain Alaskan Cruise Ship Operations; Clean Water Act; Community Environmental Response Facilitation Act; Emergency Planning and Community Right-to-Know Act; Energy Policy Act; Federal Insecticide, Fungicide, and Rodenticide Act; Marine Protection, Research, and Sanctuaries Act; Mercury-Containing and Rechargeable Battery Management Act; National Environmental Policy Act; Noise Control Act; Oil Pollution Act; Program Fraud Civil Remedies

Act; Residential Lead-Based Paint Disclosure Program; Resource Conservation and Recovery Act; Safe Drinking Water Act; Small Business Regulatory Enforcement Fairness Act; Small Business Liability Relief and Brownfields Revitalization Act; Toxic Substances Control Act; Uranium Mill Tailings Radiation Control Act; North American Agreement on Environmental Cooperation; La Paz Agreement on US/Mexico Border Region.

Program Area: Enforcement

Civil Enforcement

Program Area: Enforcement

Goal: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

Objective(s): Enforce Environmental Laws to Achieve Compliance

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Inland Oil Spill Programs	\$2,438.4	\$2,413.0	\$2,492.0	\$79.0
<i>Environmental Program & Management</i>	<i>\$169,963.4</i>	<i>\$171,377.0</i>	<i>\$182,497.0</i>	<i>\$11,120.0</i>
Leaking Underground Storage Tanks	\$588.1	\$620.0	\$668.0	\$48.0
Total Budget Authority / Obligations	\$172,989.9	\$174,410.0	\$185,657.0	\$11,247.0
Total Workyears	1,046.5	1,080.4	1,081.4	1.0

Program Project Description:

The EPA's Civil Enforcement program's goal is to assure compliance with the nation's environmental laws to protect human health and the environment. Effective enforcement is essential to deter violations and to promote compliance with federal environmental statutes and regulations. The Civil Enforcement program focuses on addressing violations that threaten communities, maintaining a level economic playing field by ensuring that violators do not realize an economic benefit from noncompliance, and deterring future violations. The Civil Enforcement program develops, litigates, and settles administrative and civil judicial cases against serious violators of environmental laws.

The program collaborates with the United States Department of Justice, states, local agencies, and Tribal governments to ensure consistent and fair enforcement of all environmental laws and regulations. The Civil Enforcement program also provides oversight of authorized state and local agency performance to ensure that national environmental laws are enforced in a consistent, equitable manner that protects public health and the environment. The EPA also works directly with Tribal governments to build their capacity to implement environmental enforcement programs.

The EPA's National Enforcement and Compliance Assurance program is responsible for maximizing compliance with 12 major environmental statutes, 28 distinct programs under those statutes, and numerous regulatory requirements under those programs which apply in various combinations to a universe of approximately 40 million regulated federal and private entities. As a means for focusing its efforts, the enforcement program identifies, in three year cycles, serious noncompliance patterns as National Enforcement Initiatives. The enforcement program reviews data and coordinates the selection of these initiatives with programs and Regional Offices within the EPA, and with states, local agencies and tribes, in addition to soliciting public comment. In FY 2017, the EPA will consider candidates and make final selections for the National Enforcement Initiatives for FY 2017- FY 2019.

FY 2017 Activities and Performance Plan:

It is critically important that the EPA continually assess priorities and embrace new approaches that can help achieve the agency's goals more efficiently and effectively. The EPA's FY 2017 budget request for the Enforcement and Compliance Assurance program continues to invest resources in high priority areas with the greatest impact on public health, while reducing resources where we have made significant progress (and therefore no longer require as active an enforcement presence), or that, while important, do not address the most substantial impacts to human health. The EPA will continue to examine areas most appropriate for reduction while implementing new enforcement approaches to make the program more efficient and effective. The program requests additional resources in FY 2017 to ensure the program is sustained and to rebalance analysis and core support costs.

In FY 2017, the EPA will continue targeting enforcement resources through its efforts in the core program as well as the national initiatives to maximize protections and achieve results. For example, in 2015, the EPA achieved estimated reduction commitments totaling 533 million pounds of pollution and commitments to treat, minimize, or properly dispose of 535 million pounds of hazardous waste from enforcement cases. The EPA enforcement actions required companies to invest an estimated \$7.3 billion in actions and equipment to control pollution (injunctive relief) in FY 2015. The EPA also obtained a total of \$205 million in federal administrative and civil judicial penalties in FY 2015. The program will continue to leverage its resources by seeking environmental improvements beyond direct penalties in enforcement cases. For example, in FY 2015, the EPA's enforcement actions resulted in more than an estimated \$39 million in Supplemental Environmental Projects (SEPs). Over the last five years (FY 2011 - FY 2015), the national enforcement program has produced approximately 20 dollars in pollution control commitments and administrative and judicial penalties for every dollar of federal investment.

The EPA has achieved impressive pollution control and health benefits through vigorous compliance monitoring and enforcement, but traditional enforcement methods alone will not address all noncompliance problems. The sheer number of regulated facilities, the pollution from large numbers of smaller sources, and limited resources means that the traditional single facility inspection and enforcement approach cannot be relied on as our only way to achieve widespread compliance with the nation's environmental laws. As a result, the agency needs to continue adapting to the modern era by developing and implementing new methods that rely heavily on advances in both monitoring and information technology.

Next Generation Compliance

Recognizing that traditional enforcement approaches will not be sufficient to address noncompliance problems, the EPA continues to focus efforts on moving to the "next generation" of compliance. Next Generation Compliance aims to capitalize on advances in information technology and advanced pollutant monitoring technology, combined with a focus on designing rules and permits that are easier to implement, to improve compliance, expand transparency, and protect communities while reducing costs for the federal government, states, territories, tribes and regulated facilities. There are five main components to this initiative: 1) structuring our regulations to be easier to implement and achieve higher compliance; 2) using advanced pollutant detection

technology to find out about pollution as it happens in real-time; 3) moving from paper to electronic reporting to enhance government efficiency and reduce paperwork burden; 4) making pollution and compliance information more accessible, user-friendly, and available to the public to promote accountability; and 5) using innovative approaches to enforcement to focus limited resources on the biggest pollution problems.⁶⁰

Next Generation Compliance complements the agency's E-Enterprise for the Environment business strategy. The wider E-Enterprise business strategy will result in reduced reporting burden on states and regulated facilities, and improve the effectiveness and efficiency of regulatory programs for the EPA, states and tribes. Through E-Enterprise, the agency reached its FY 2014-2015 Agency Priority Goal of reducing one million hours of regulatory burden as a result of moving from paper to electronic reporting in the NPDES Electronic Reporting rule⁶¹ as well as in TSCA and Clean Air Act programs. Next Generation Compliance activities will contribute to that end and future burden reduction goals leveraging the E-Enterprise portal as appropriate. The agency has a FY 2016-2017 Agency Priority Goal to reduce burden by one million hours, add five new functionalities to the E-Enterprise Portal, and begin development on two projects selected through E-Enterprise Leadership Council joint governance.

Next Generation Compliance also has been incorporated into the EPA's national effort to advance environmental justice by protecting communities that have been disproportionately impacted by pollution. For example, in *U.S. v. Marathon Petroleum Corporation*, among other measures to reduce emissions from fuel storage tanks, Marathon agreed to implement innovative technologies using an infrared gas-imaging camera to inspect 14 fuel storage tanks in three states to identify potential defects that may cause excessive emissions of VOCs. If defects are found, Marathon will conduct inspections and perform repairs where necessary. These projects are primarily located in environmental justice communities and are estimated to reduce total emissions of VOCs by 36.8 tons per year in neighboring communities for each of the four years that the Consent Decree remains in effect. Environmental benefits accruing as a result of the installation of the projects are anticipated to continue for many years after termination of the Consent Decree. In addition, the recent settlement with *Noble Energy, Inc.*, an oil and gas production company, requires installation of "next generation" pressure monitors with continuous data reporting of storage tank systems to prevent tank over-pressurization that could cause VOC emissions, as well as independent third-party auditing and other measures to enhance compliance and increase transparency.

Federal Facility Oversight

The Civil Enforcement program includes the regulation of federal facility sites. The Federal Facilities Enforcement program will continue to expeditiously pursue enforcement actions at federal facilities where significant violations are discovered, with a specific focus on noncompliance with storm water, RCRA waste requirements, vulnerable populations and other priority areas. The EPA will continue its partnership in *FedCenter*,⁶² the federal facility

⁶⁰ For additional information, refer to: <http://www2.epa.gov/compliance/next-generation-compliance-memorandum-next-gen-civil-enforcement-settlements>.

⁶¹ For additional information, refer to <http://www.epa.gov/compliance/final-national-pollutant-discharge-elimination-system-npdes-electronic-reporting-rule>.

⁶² For additional information, refer to: <http://www.fedcenter.gov/>.

environmental stewardship and compliance assistance center co-sponsored and voluntarily funded by more than a dozen federal agencies.

National Enforcement Initiatives

In FY 2017, the agency will continue to focus on complex and challenging national pollution problems, and in FY 2016 will consider candidates and make final selections for the National Enforcement Initiatives for FY 2017-2019. The national initiatives for FY 2014-2016 include Clean Water Act “wet weather” pollutant discharges, violations of the Clean Air Act New Source Review/Prevention of Significant Deterioration (NSR/PSD) requirements and Air Toxics regulations, Resource Conservation and Recovery Act (RCRA) violations at mineral processing facilities, and ensuring protective energy extraction. Information on initiatives, regulatory requirements, enforcement alerts, and results from civil enforcement activities are made available to the public and the regulated community on the EPA’s web sites.⁶³ Between FY 2003 and FY 2015, the EPA inspected 100 percent of the mineral processing facilities which pose the highest risks to human health and the environment, the phosphoric acid facilities. By the end of FY 2015, 107 other high risk mineral processing facilities had been inspected and 61 percent of these were on an enforceable schedule to comply or did not have significant violations and the agency continues to pursue actions to address the remainder.⁶⁴

The EPA’s Clean Water program will continue to work with states, tribes, and communities to improve our nation’s impaired waters. Towards that end, the EPA, working with permitting authorities, is revamping compliance and enforcement approaches to make progress on the most important water pollution problems. This work includes getting raw sewage out of water, cutting pollution from animal waste, and reducing pollution from storm water runoff. Between FY 1998 and FY 2015, 94 percent of the largest cities with Combined Sewer Overflows were on a schedule to clean up their water and achieve compliance.⁶⁵ These efforts will help to clean up great waters like the Chesapeake Bay and will focus on revitalizing urban communities by protecting and restoring urban waters. The recent settlement with the *District of Columbia Water and Sewer Authority*, for example, will directly benefit residents of that community by reducing the exposure of low income and minority populations to uncontrolled raw sewage and stormwater runoff into the Rock Creek and Potomac River watersheds, including an innovative “green infrastructure” strategy that uses vegetation, soils, and natural processes to absorb and store rainwater to control wet weather pollution. Enforcement also will support the goal of assuring clean drinking water for all communities, including those served by small systems and in Indian country.

New Source Review (NSR) violations at large sources (power plants, cement kilns, glass furnaces and acid plants) as well as illegal emissions of air toxics will continue to be a major focus of the EPA’s enforcement efforts. The large sources in violation of the NSR provisions of the Clean Air Act are responsible for many thousands of tons of excess criteria pollutant emissions (SO₂, NO_x, and particulate matter) each year. Installation of the controls required under NSR typically reduces criteria pollutant emissions by over 90 percent. Improperly operated flares, leaking production

⁶³ For additional information, refer to: <http://www.epa.gov/enforcement/>.

⁶⁴ For additional information, refer to: <http://www2.epa.gov/enforcement/national-enforcement-initiative-reducing-pollution-mineral-processing-operations>.

⁶⁵ For additional information, refer to: <http://www2.epa.gov/enforcement/national-enforcement-initiative-keeping-raw-sewage-and-contaminated-stormwater-out-our>.

facilities, and certain operational practices or events at industrial facilities may result in substantial releases into the air of hazardous air pollutants and other compounds of concern. In FY 2017, the EPA will continue to reduce illegal emissions of toxic air pollutants from these sources through targeted investigations involving on-site inspections, record reviews, and sophisticated monitoring and detection devices such as thermal imaging cameras, hand-held detection devices, mobile real-time monitoring equipment and other tools. The EPA will continue to coordinate its investigations and enforcement actions with state and Tribal partners. Due to these efforts, between FY 2011 and FY 2015, 2,281 air toxics emitting facilities were evaluated and between FY 1999 and FY 2015, ⁶⁶ 59 percent of coal fired units were controlled.⁶⁷ In one example, the *Four Corners Power Plant* settlement will not only mean cleaner air for the residents of the Navajo Indian Reservation near Farmington, New Mexico, but also includes projects that will directly benefit local communities (e.g., replacement of inefficient wood- or coal-burning stoves with cleaner-burning energy-efficient appliances, home weatherization projects, and medical screening for impacted residents).

Additional Priorities

The EPA remains committed to enforcement of the nation's pesticides, waste, and chemical safety laws. For example, a series of enforcement actions in FY 2015 require home renovation contractors and training providers to protect people from harmful exposure to lead dust and debris. Lead dust and debris from improper renovation activities on properties built prior to 1978 is a major source of lead exposure that can cause lead poisoning. Although using lead-based paint in dwellings was prohibited after 1978, it is still present in more than 30 million homes across the nation. Children are particularly vulnerable to the dangers of lead paint exposure, especially those in predominantly minority and low-income communities where housing is more likely to contain lead-based paint.⁶⁸ The EPA also continues to focus on compliance with waste management and disposal requirements at mining and mineral processing facilities. This sector produces more waste than any other sector in the country and, to date, the EPA's compliance monitoring and enforcement efforts have led to the elimination, treatment, and proper disposal of over 20 billion pounds of hazardous waste.

The nation's food supply is protected by vigorous enforcement of the regulations for the manufacture and use of all pesticides (including insecticides, herbicides, rodenticides, disinfectants, and sanitizers) in the United States. Enforcement actions against major pesticide manufacturers will ensure pesticide products are properly formulated and labeled to ensure safe use and handling of these products. Also, in light of the recent pesticide poisoning incident in the Caribbean islands involving misuse of the fumigant methyl bromide, the EPA is aggressively investigating the production, sale, distribution and use of products containing methyl bromide and other high risk pesticides. Results of that investigation likely will have a significant impact on the future use of those compounds and ensure that people living or working near areas where such applications are made are adequately protected.

⁶⁶ For additional information, refer to: <http://www2.epa.gov/enforcement/national-enforcement-initiative-cutting-hazardous-air-pollutants>.

⁶⁷ For additional information, refer to: <http://www2.epa.gov/enforcement/national-enforcement-initiative-reducing-air-pollution-largest-sources>.

⁶⁸ For additional information, refer to: <http://www2.epa.gov/enforcement/lead-renovation-repair-and-painting-rule-december-2014>.

Information Systems

In FY 2017, reliable information on compliance and program performance remains critical. The EPA's Civil Enforcement program relies on the Integrated Compliance Information System (ICIS) to manage federal compliance and enforcement activities by tracking the status of all civil judicial and administrative enforcement actions, as well as compliance and enforcement results. The EPA will continue to make information on its enforcement work more publically accessible and transparent on its Enforcement and Compliance History Online (ECHO) interactive web site and obtain new data sets (e.g., geospatial) for public use.

The NPDES Electronic Reporting Rule finalized in September 2015 will have significant benefits to the public, regulated facilities, states, and the EPA. One of the benefits of this rulemaking is that it supports high quality, complete, and timely data for the National Pollutant Discharge Elimination System (NPDES) program. With the final rule signed in FY 2015 and implementation beginning in calendar year 2016, NPDES-authorized programs in states, tribes, territories, and the EPA should be able to shift some of their limited resources away from data management activities to those more targeted to solving water quality issues. To complement these efforts, the EPA has developed NetDMR, the electronic reporting tool for reporting Discharge Monitoring Reports, to support implementation of the proposed rule. Also, the EPA is developing the NPDES Electronic Reporting Tool (NeT) to support the remaining data flows that will be required by the proposed rule such as Notices of Intent. Both of these tools will be available for states to use to support the implementation of the rule; many states are already using NetDMR.

The EPA is enhancing the capabilities of its RCRA Waste Import Export Tracking System (WIETS) to interface with the Automated Commercial Environment (ACE) system of US Customs and Border Protection, in order to interdict illegal hazardous waste exports at ports. It also will interface with US exporters to allow e-filing with the EPA of notices of intent to export hazardous waste from the United States and annual export reports summarizing shipments made. In addition, it will allow e-filing with the EPA of notices of intent to import hazardous into the United States from importers in situations where the sending country does not send a notice to the EPA.

Environmental Justice

The Civil Enforcement program also supports the Environmental Justice program by taking actions in communities that may be disproportionately exposed to risks and harm from environmental contaminants, including minority and/or low-income areas. In FY 2015, 35 percent of the enforcement cases initiated by the EPA addressed violations that had occurred in locations with potential environmental justice concerns,⁶⁹ and many additional cases located outside the community will reduce pollution that will benefit those communities. The EPA works to protect these and other burdened communities from adverse human health and environmental effects through programs consistent with environmental and civil rights laws.⁷⁰

⁶⁹ This includes all enforcement cases initiated by the EPA in FY 2014 that had a meaningful location for undertaking an environmental justice analysis.

⁷⁰ For additional information, refer to: <http://www.epa.gov/enforcement/enforcement-annual-results-fiscal-year-fy-2015>.

Performance Targets:

Measure	(400) Millions of pounds of air pollutants reduced, treated, or eliminated through concluded enforcement actions.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	480	480	480	450	350	310	310	300	Million Pounds
Actual	410	1,100	250	610	140	430			

Measure	(402) Millions of pounds of water pollutants reduced, treated, or eliminated through concluded enforcement actions.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	320	320	320	320	280	250	250	240	Million Pounds
Actual	1,000	740	500	660	340	90			

Measure	(404) Millions of pounds of toxic and pesticide pollutants reduced, treated, or eliminated through concluded enforcement actions.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	3.8	3.8	3.8	3.0	2.5	2.3	2.3	2.3	Million Pounds
Actual	8.3	6.1	1,400	4.6	41	10			

Measure	(405) Millions of pounds of hazardous waste reduced, treated, or eliminated through concluded enforcement actions.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	6,500	6,500	6,500	6,000	5,000	2,400	2,400	2,300	Million Pounds
Actual	11,800	3,600	4,400	150	700	500			

Measure	(410) Number of civil judicial and administrative enforcement cases initiated.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			3,300	3,200	3,200	2,700	2,700	2,700	Cases
Actual			3,000	2,400	2,300	2,400			

Measure	(411) Number of civil judicial and administrative enforcement cases concluded.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			3,200	3,000	2,800	2,400	2,400	2,400	Cases
Actual			3,000	2,500	2,300	2,400			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$4,481.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs for existing FTE due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$6,639.0 / +1.0 FTE) This program change reflects a net increase to support technical analyses of complex data to support cases and work to oversee compliance with settlement agreements so that existing staff can be more efficient and effective. Resources also will support core elements of a viable civil enforcement program including expert witnesses, managment of the program’s discovery responsibilities in legal proceedings, and lab analyses. Due to shifting workload, the Civil Enforcement program proposes to shift 1.0

FTE from the Criminal Enforcement program to support legal case work in the Regional Offices. This program change also reflects an increase associated with Regional legal support.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA’s organic statute); Act to Prevent Pollution from Ships (MARPOL Annex VI); Asbestos Hazard Emergency Response Act; Atomic Energy Act; Clean Air Act; Certain Alaskan Cruise Ship Operations; Clean Water Act; Emergency Planning and Community Right-to-Know Act; Energy Policy Act; Federal Insecticide, Fungicide, and Rodenticide Act; Marine Protection, Research, and Sanctuaries Act; Mercury-Containing and Rechargeable Battery Management Act; National Environmental Policy Act; Noise Control Act; Oil Pollution Act; Residential Lead-Based Paint Disclosure Program; Resource Conservation and Recovery Act; Safe Drinking Water Act; Small Business Regulatory Enforcement Fairness Act; Small Business Liability Relief and Brownfields Revitalization Act; Toxic Substances Control Act; Uranium Mill Tailings Radiation Control Act; North American Agreement on Environmental Cooperation; La Paz Agreement on US/Mexico Border Region.

Criminal Enforcement

Program Area: Enforcement

Goal: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

Objective(s): Enforce Environmental Laws to Achieve Compliance

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$47,853.0</i>	<i>\$46,313.0</i>	<i>\$52,572.0</i>	<i>\$6,259.0</i>
Hazardous Substance Superfund	\$6,996.9	\$7,124.0	\$7,824.0	\$700.0
Total Budget Authority / Obligations	\$54,849.9	\$53,437.0	\$60,396.0	\$6,959.0
Total Workyears	251.8	268.9	267.9	-1.0

Program Project Description:

The EPA's Criminal Enforcement program enforces the nation's environmental laws through targeted investigation of criminal conduct, committed by individual and corporate defendants, that threatens public health and the environment. A strong enforcement program is a key component of an effective, results-focused environmental compliance strategy. Successful, visible prosecutions deter other potential violators, eliminate the incentive for companies to "pay to pollute," and help ensure that businesses that follow the rules do not face unfair competition from those that break the rules. Criminal enforcement also sends a strong deterrence message to businesses operating in economically disadvantaged communities and traditionally industrial areas, where residents may have suffered disproportionate pollution impacts, in part due to criminal activities.

The EPA's criminal enforcement agents (Special Agents) investigate violations of environmental statutes and associated violations of Title 18 of the United States Code such as fraud, conspiracy, false statements, and obstruction of justice. Special Agents provide prosecutorial support, evaluate leads, interview witnesses, serve and support search warrants, and review documentary evidence including data from prior inspections and enforcement actions. They are assisted by forensic scientists, attorneys, technicians, engineers, and other experts. Special Agents assist in plea negotiations, and in planning sentencing conditions that require remediation, environmental management systems, or other projects that improve environmental conditions.⁷¹

The EPA's Special Agents also participate in state and local task forces and attend specialized training courses at the Federal Law Enforcement Training Center along with other federal, state, and local law enforcement officials. Along with other joint efforts, these events offer valuable opportunities to exchange information that can inform future efforts.⁷²

The EPA's criminal enforcement attorneys provide legal and policy support for all of the program's responsibilities, including forensics and expert witness preparation, to ensure that program activities are carried out in accordance with legal requirements and the policies of the agency. These

⁷¹ For additional information, refer to: <http://www2.epa.gov/enforcement/criminal-enforcement-special-agents>.

⁷² For additional information, refer to: <http://www2.epa.gov/enforcement/criminal-enforcement>.

efforts support environmental crime prosecutions primarily by the United States Attorneys and the Department of Justice’s Environmental Crimes Section, and occasionally by state, Tribal, and local prosecutors. In FY 2015, the conviction rate for criminal defendants was 92 percent.⁷³

FY 2017 Activities and Performance Plan:

Successful prosecutions are the result of careful collection and expert evidence analysis. In FY 2017, the Criminal Enforcement program will continue to emphasize cases with significant human health, environmental, and deterrent impacts, while balancing its overall case load across all environmental statutes. The FY 2017 request will allow the Criminal Enforcement program to continue its critical criminal investigation and enforcement work by maintaining existing personnel and expertise. Additionally, these resources will be used to modernize the Criminal Case Reporting System (CCRS) which is over nine years old and is at the end of its service life. The new system will have increased capability for data analytics and also provide a better data-sharing capability with other agency data systems.

The EPA’s Criminal Enforcement program is committed to fair and consistent enforcement of federal laws and regulations nation-wide and has the flexibility to respond to region-specific environmental problems. In FY 2017, the Criminal Enforcement program will continue to oversee all investigations to ensure compliance with program priorities, and conduct regular docket reviews, which are detailed reviews of all open investigations in each Regional Office, in order to ensure consistency with agency guidance and enforcement priorities.

The Criminal Enforcement program continues to “tier” significant cases based upon categories of human health and environmental impacts (e.g., death, serious injury, human exposure, required remediation), release and discharge characteristics (e.g., hazardous or toxic pollutants, continuing violations), and subject characteristics (e.g., national corporation, recidivist violators). In FY 2015, criminal charges were brought against 185 defendants, and criminal defendants were assessed a total of \$4.2 billion⁷⁴ in fines, restitutions, and court-ordered projects. Defendants in criminal proceedings were sentenced to 129 years of incarceration, reflecting the agency’s focus on the most serious violations.⁷⁵

In FY 2017, the Criminal Enforcement program will continue to realize the benefits of enhanced crime scene investigation support, forensic evidence collection, and improved sampling support for complex criminal enforcement efforts involving highly contaminated crime scenes and major releases to the environment. High-quality forensic data collection and analysis also are key to establishing personal culpability of individual violators, which can lead to sentences that may include incarceration.

In FY 2017, the Criminal Enforcement program will continue to enhance its targeting and investigations strategy through implementation of Analytically Driven Operations (ADOs). ADOs are investigations or a cluster of investigations in an area that had been targeted for enhanced

⁷³ For additional information, refer to: <http://www.epa.gov/enforcement/enforcement-annual-results-fiscal-year-fy-2015>.

⁷⁴ In FY 2015, the large criminal sentencing of Duke Energy and several of its subsidiaries contributed \$4,002,219,870 to the total amount in fines, restitution, and court ordered projects.

⁷⁵ For additional information, refer to: <http://www.epa.gov/enforcement/enforcement-annual-results-fiscal-year-fy-2015>.

criminal enforcement based on analysis of available data related to a specific industry or practice. These industries or practices require data to be reported to various regulatory entities. The data reported may exhibit inconsistent patterns across regulatory entities for the same data set, which may be an indicator of potentially false data or fraudulent activities. ADOs are developed using data from the EPA, other federal agencies, and other sources to reveal those sectors, geographic areas, or individual companies that may have consistent patterns of violations. ADOs enhance the effectiveness of criminal targeting and investigations by identifying fraud and illegal conduct before serious violations occur. Potential criminal violations are investigated by the EPA’s Special Agents, and prepared for potential prosecution where appropriate, using an expanded range of tools, including advanced monitoring equipment and techniques. In addition, analytical tools are incorporated into plans to modernize the program’s case management system, supporting better coordination of cases nationwide and more efficient operations.

Coordinating Civil and Criminal Enforcement Programs

A fully integrated enforcement and compliance strategy is essential for the agency to fulfill its mission to protect human health and the environment. The Criminal Enforcement program continues to enhance its collaboration and coordination with the Civil Enforcement program to ensure that the EPA enforcement program as a whole responds to violations as effectively as possible. The Criminal Enforcement program will work with the Civil Enforcement program to identify National Enforcement Initiative⁷⁶ cases and violations in the EPA’s national priority areas that would most effectively be addressed through criminal prosecution. This coordinated approach is accomplished by employing an effective regional case screening process to identify the most appropriate civil or criminal enforcement responses for a particular violation, and by taking criminal enforcement actions against long-term or repeat significant non-compliers where appropriate.

In FY 2017, the EPA will continue to seek to deter environmental crime by pursuing leads reported by the public as appropriate through the tips and complaints link on the EPA’s website,⁷⁷ and will continue to use the fugitive website.⁷⁸ The fugitive website enlists the public and law enforcement agencies to help apprehend defendants who have fled the country, are in hiding to avoid prosecution for alleged environmental crimes, or are in hiding to avoid sentencing for crimes for which they have been found guilty.

Performance Targets:

Measure	(418) Percentage of criminal cases having the most significant health, environmental, and deterrence impacts.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			43	43	43	45	45	45	Percent
Actual			45	44	48	62			

Measure	(419) Percentage of criminal cases with individual defendants.	Units
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⁷⁶ For additional information, refer to: <http://www2.epa.gov/enforcement/national-enforcement-initiatives>.

⁷⁷ For additional information, refer to: <http://www2.epa.gov/enforcement/report-environmental-violations>.

⁷⁸ For additional information, refer to: <http://www2.epa.gov/enforcement/epa-fugitives>.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			75	75	75	75	75	75	Percent
Actual			70	80	87	83			

Measure	(420) Percentage of criminal cases with charges filed.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			40	40	40	45	45	45	Percent
Actual			44	38	39	38			

Measure	(421) Percentage of conviction rate for criminal defendants.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			85	85	85	85	85	85	Percent
Actual			95	94	95	92			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$2,745.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$182.0 / -1.0 FTE) This program change reflects a reduction associated with Regional criminal case support. Due to shifting workload, the Criminal Enforcement program proposes to shift 1.0 FTE to the Civil Enforcement program to support legal case work in the regions.
- (+\$3,696.0) This program change reflects an increase in funds to support targeted, analytically-driven enforcement activities and to effectively investigate complex criminal enforcement cases. It also represents an increase in essential resources to support the electronic analytical platform needed to conduct comparative analysis of information from a variety of sources.

Statutory Authority:

Title 18 of the U.S.C.; 18 U.S.C. § 3063; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA’s organic statute); Resource Conservation and Recovery Act; Clean Water Act; Safe Drinking Water Act; Clean Air Act; Toxic Substances Control Act; Emergency Planning and Community Right-To-Know Act; Residential Lead-Based Paint Hazard Reduction Act; Federal Insecticide, Fungicide, and Rodenticide Act; Ocean Dumping Act (i.e., MPRSA); Pollution Prosecution Act; Title 18 General Federal Crimes (e.g., false statements, conspiracy); Powers of Environmental Protection Agency (18 U.S.C. 3063).

Environmental Justice

Program Area: Enforcement

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Promote Sustainable and Livable Communities

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$7,123.5	\$6,737.0	\$15,291.0	\$8,554.0
Hazardous Substance Superfund	\$605.1	\$545.0	\$612.0	\$67.0
Total Budget Authority / Obligations	\$7,728.6	\$7,282.0	\$15,903.0	\$8,621.0
Total Workyears	32.8	40.3	40.3	0.0

Program Project Description:

The EPA is committed to fostering public health in communities disproportionately burdened by pollution by integrating and addressing issues of environmental justice (EJ) in the EPA's programs and policies as part of its day-to-day business. The EPA's EJ program promotes accountability for compliance with Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations".⁷⁹ The EJ program facilitates this implementation by: (1) supporting and promoting the agency's efforts to address environmental justice issues; (2) supporting the EPA's outreach to other federal agencies through the interagency working group on environmental justice; and (3) promoting opportunities for communities to be heard and meaningfully engage with the federal government on environmental justice issues.

The EJ program conducts outreach and provides financial and technical assistance that empowers low income and minority communities to take action to protect themselves from environmental harm. The EJ program partners with other agency programs to develop scientific, legal, and public engagement guidance documents that enable the incorporation of environmental justice considerations into the EPA's regulatory and policy decisions. Finally, the EJ program supports agency efforts to strengthen internal mechanisms to integrate environmental justice into the EPA's programs and activities including communication, training, performance management, and accountability measures.

FY 2017 Activities and Performance Plan:

In FY 2017, the EJ program will place greater emphasis on collaboration between national programs, Regional Offices, and partner agencies to make a visible difference in communities. These activities will continue to improve the effectiveness, efficiency and results achieved by the agency through an integrated and holistic approach to assisting communities as they work to address their environmental issues. Opportunities to improve the implementation of the EJ program range from greater collaboration internally to enhancing partnerships with external stakeholders, such as our state and federal partners, with respect to leveraging technical support and resources to

⁷⁹ For additional information, refer to: <http://www2.epa.gov/laws-regulations/summary-executive-order-12898-federal-actions-address-environmental-justice>.

communities. The program can help affected communities develop ongoing relationships with stakeholders, allowing them to better address their current and future environmental and/or public health problems. Additionally, the program will work on the integration of EJ into environmental programs in the following ways:

- Implementing technical guidance in rulemaking and other analyses that inform the EPA's decisions and actions;
- Developing rules that implement existing statutory authority while working to reduce disproportionate pollutant burdens and cumulative impacts from multiple sources on low-income and minority communities;
- Enhancing the ability of environmentally overburdened and vulnerable communities to participate fully and meaningfully in permitting processes and decisions; and
- Developing an inventory of successful efforts that track and report progress in achieving results in communities disproportionately burdened by environmental pollution by reducing levels of pollution, increasing community capacity, and reducing community vulnerability to pollution. The inventory includes such projects as the Grundy County (Tracy City), TN project that has done the following: leveraged almost \$2.5 million to create a learning, development and wellness center in the former Grundy County High School facility; develop a community connector on the former Mountain Goat rail line; evaluate brownfields and UST sites; and promote local economic resiliency through a Local Foods, Local Places initiative.

In FY 2017, the EPA will continue to facilitate the integration of environmental justice considerations into planning and performance measurement processes. In the EJ 2020 Action Agenda, the agency will build on the foundation established through the EPA's Plan EJ 2014,⁸⁰ and will focus on outcomes, collaborating with partners to expand our impact in vulnerable and underserved communities and on deepening environmental progress through the EPA's programs to improve the health and environment of the communities we serve.⁸¹ These activities remain consistent with the vision and commitments outlined in the agency's FY 2014-2018 Strategic Plan, Plan EJ 2014, the EJ 2020 Action Agenda, and the annual action plan for the Cross-Cutting Fundamental Strategy for Working to Make a Visible Difference in Communities.

Community Programs

In FY 2017, the EPA will continue enhancing its work on building community capacity in order to enable communities to be full partners in agency programs and environmental decision-making. This effort will elucidate a common approach to how we approach, engage with, and collaborate with communities over a long-term period in order to support their growth, capacity-building, and ultimate implementation of community driven holistic solutions to environmental and public health challenges in their communities. The work also will create better connections between the agency's programs – particularly those that are intended to support communities, with an emphasis on overburdened and vulnerable populations. Many of the agency's programs and activities will be enhanced and connected, including Urban Waters Grants, Environmental Justice Small Grants, Office of Sustainable Communities Building Blocks Assistance, Technical Assistance Services for

⁸⁰ For additional information, refer to: <http://epa.gov/environmentaljustice/plan-ej/index.html>.

⁸¹ For additional information, refer to: <http://epa.gov/environmentaljustice/ej2020/index.html>.

Communities (TASC), the Community Roadmap, and the Collaborative Problem Solving Cooperative Agreements Program. Additionally, the Community Resource Network (CRN) will identify and align community-focused resources from across the agency in order to make them more accessible and useful to communities. The CRN will ensure that staff working directly with communities have a venue for learning and information sharing with their peers across the agency and provide a pathway for highlighting the successes and lessons learned in communities.

Leveraging Federal Resources

The EJ program will continue to work with the EPA's programs and other federal agency partners to build key relationships at the headquarters, regional, and local levels that foster increased awareness and implementation of environmental justice principles.

The EJ program will advance healthy, equitable, resilient and sustainable communities by:

- Working with the EPA's environmental programs and other federal partners to identify and leverage existing resources for community-level work;
- Fostering collaborations between the EJ program, the EPA's environmental programs, and other federal agencies at the community level; and
- Facilitating the development of approaches to advance rural environmental justice.

The deliverables and outcomes of the EJ program will hopefully continue to have positive impacts in upcoming years.

EJ Grants

In FY 2017, the EPA will continue to manage the EJ grants programs to provide federal assistance to overburdened and vulnerable communities to enhance local capacity to address environmental challenges in their communities. Since its inception in 1994, the EJ program has awarded over \$35 million through its competitive grants program to more than 1,450 community-based organizations such as non-profit organizations, local governments, and Tribal governments to support their efforts to address local environmental and health issues.⁸² The EJ small grants program and the collaborative problem solving (CPS) grants program, which was reintroduced in 2014, are both competitive grant programs and will both be offered annually as critical pieces of the Communities Roadmap approach described above. The EJ small grants program provides funding in the form of grants in amounts up to \$30 thousand for one year projects, while the EJ collaborative problem solving grants program provides funding through cooperative agreements in amounts of up to \$120 thousand for two year projects. The following are examples of EJ small grant projects that started in FY 2015 and support efforts to create healthy and sustainable communities:

- **Farming for the Future (Pennsylvania):** This project will empower farmers in Pennsylvania to adapt to changing climate conditions through sustainable agricultural methods including building healthy fertile soil and enhancing biodiversity on their farms. The project will host two on-farm Field Days, one Pre-Conference Track at the 2016 *Farming for the Future Conference*, and one webinar. At least 100 farmers in Pennsylvania will attend educational workshops and increase their understanding of climate change and

⁸² For additional information, refer to: <http://www3.epa.gov/environmentaljustice/grants/index.html>.

sustainable agricultural methods that can build farm resiliency. By bringing farmers, extension educators, researchers, and private and land grant universities together to learn and share with one another, the project will foster a community-based learning and innovation network to guide future work supporting climate change resiliency in the agricultural community in Pennsylvania.

- **Chickaloon Native Village (Alaska):** This project will serve to educate the local community regarding impacts to public health, air and water quality, fish and wildlife health, and the climate in response to proposed coal surface strip mining, transporting, exporting, and consumption. This project will be to educate the local community on ways to reduce their exposure to public health risks and environmental harms and equip community members with ways to act locally to address climate change.

National Environmental Justice Advisory Council

The National Environmental Justice Advisory Council (NEJAC), a federal advisory committee to the EPA, provides advice and recommendations on broad, cross-cutting issues related to environmental justice. In addition, the NEJAC provides a valuable forum for all stakeholders involved in the environmental justice dialogue to engage in discussions about integrating environmental justice within other priorities and initiatives of the EPA.

Since its inception in 1994, the NEJAC has worked to help shape agency policy by offering a wide range of advice and recommendations. The NEJAC deliberations are augmented by work groups, which are convened to prepare proposed advice and recommendations for consideration by the NEJAC. During FY 2014 and FY 2015, the NEJAC issued the following advice and recommendations:

- **May 2015:** Recommendations about the proposed Petroleum Refinery Sector Risk and Technology Review (Refinery Rule);⁸³
- **April 2015:** Recommendations for addressing the disproportionate burdens from pollution generated by goods movement;
- **April 2015:** Recommendations calling for the EPA to ensure that environmental and technological benefits of the Clean Power Plan will reach environmental justice communities;
- **April 2015:** Advice calling for efforts to ensure that the EPA is receiving diverse input into its deliberative process as it works to improve and provide clear articulation of its efforts to ensure full and vigorous enforcement of the Civil Rights Act of 1964, within the context of agency programs, policies and financial assistance;
- **March 2015:** Recommendations related to incorporating consideration of environmental justice into the Agricultural Worker Protection Standard rule;⁸⁴
- **August 2014:** Recommendations for meaningful implementation of four key principles in the EPA's Policy on Environmental Justice for Tribes and Indigenous Peoples,⁸⁵ and

⁸³ For additional information, refer to: <http://www.epa.gov/airtoxics/petref.html>.

⁸⁴ For additional information, refer to: <http://www.epa.gov/agriculture/twor.html>.

⁸⁵ For additional information, refer to: <http://www3.epa.gov/environmentaljustice/resources/policy/indigenous/ej-indigenous-policy.pdf>.

- **June 2014:** Recommendations for integrating environmental justice into the EPA’s Research Enterprise.⁸⁶

The full list of advice and recommendations issued by the NEJAC are located on the EPA’s website.⁸⁷

Environmental Justice Interagency Working Group

In FY 2017, the EPA’s EJ program will continue to work with other federal agencies to continue building strong relationships with historically underrepresented communities. Pursuant to the “*Memorandum of Understanding on Environmental Justice and Executive Order 12898 (August 4, 2011)*”, the EPA, in conjunction with the White House Council on Environmental Quality, will continue to convene the Interagency Working Group on Environmental Justice (EJIWG). The EJIWG is a mechanism to provide and foster training and technical assistance to other federal agencies on the integration of environmental justice into their programs. In FY 2017, the EPA, in conjunction with other federal agency partners in the EJIWG, will implement the EJIWG Action Agenda Framework that seeks to advance greater federal agency collaboration to improve the quality of life and to expand economic opportunity in overburdened and under-resourced communities.⁸⁸ The overarching purpose of this three-year framework is to foster a cohesive and comprehensive federal approach to improve the health and sustainability of those communities with the greatest needs. Additionally, efforts will strategically focus on leveraging resources and technical assistance on place-based initiatives to identify collaborative opportunities to support the achievement of healthy and sustainable community goals.

The EJ program will continue to work with other federal agencies to advance consideration of environmental justice through the National Environmental Policy Act (NEPA) reviews, as well as through the work of various committees of the EJIWG. Additionally, the EPA will continue to work with federal agency partners to build key relationships at the regional and local levels that will foster increased awareness and implementation of environmental justice principles by regional and state staff.

The NEPA Committee of the EJIWG works to improve the consideration of environmental justice in the NEPA process through the sharing of promising practices, lessons learned, research, analysis, training, consultation, and other experiences of federal NEPA practitioners. The NEPA Committee achieves this purpose by:

- Compiling promising approaches for integrating environmental justice considerations during NEPA reviews. The model approaches are drawn from current agency practices and the experience and expertise of NEPA practitioners across the federal government.
- Producing a national training product to help NEPA practitioners and reviewers understand ways to incorporate EJ into the NEPA process.

⁸⁶ For additional information, refer to:

[http://yosemite.epa.gov/sab/sabproduct.nsf/0/337ECE7064DEE1F185257CF3005F5367/\\$File/draft-environmental-justice-cross-cutting-roadmap-20140702.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/0/337ECE7064DEE1F185257CF3005F5367/$File/draft-environmental-justice-cross-cutting-roadmap-20140702.pdf).

⁸⁷ For additional information, refer to: <http://www3.epa.gov/environmentaljustice/nejac/recommendations.html>.

⁸⁸ For additional information, refer to: <http://epa.gov/environmentaljustice/interagency/index.html>.

- Developing educational and training materials for external stakeholders to facilitate consideration of environmental justice during NEPA reviews.

The deliverables and outcomes of the committee’s work will continue to have positive impacts in upcoming years. The compilation of the above referenced promising practices and the national training product, as well as additional education materials, will be accessed across the federal government and by external stakeholders who participate in NEPA during FY 2017 in support of better outcomes that result in healthier, equitable, resilient, and sustainable communities.

As another example of interagency collaboration, a HUD-DOT-EPA Partnership for Sustainable Communities developed a one-stop web-based guide for the EPA, HUD, DOT and HHS/CDC resources to advance healthy, sustainable, and equitable communities. The guide has information and links on environment, health, transportation, and housing which help communities with environmental justice concerns learn about their role in addressing longstanding challenges and revitalizing neighborhoods.⁸⁹

In FY 2017, the EPA will continue to provide a range of resources to support communities and ensure that ongoing EPA program work is more effectively leveraged. Agency resources will better prepare communities for implementing community-focused programs by utilizing a centralized approach, through the Community Resource Network, to support, assist and engage with environmentally overburdened communities and vulnerable populations.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$802.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$6,425.0) This program change will support the agency’s “Making a Visible Difference in Communities” initiative by building partnerships, assisting communities to identify environmental and health problems, implementing solutions, and training experts to address specific environmental justice needs.
 - (+\$5,000.0) will be used to provide financial assistance to eligible organizations working on projects to address local environmental and public health issues in overburdened and vulnerable communities.
 - (+\$1,425.0) will be used to expand technical assistance to communities, develop metrics and measures, and to analyze the effectiveness and the impact of the EPA’s work in communities.

⁸⁹ For additional information, refer to: <http://www3.epa.gov/environmentaljustice/sustainability/index.html>.

- (+\$1,000.0) This program change reflects an increase in funding for Advanced Monitoring efforts in communities. The funds will provide technical assistance and training on how to use air and water sensors, interpret and share the resulting data, and implement strategies to follow up on the findings, including engagement with appropriate regulatory agencies.
- (+\$327.0) This program change reflects an increase to address local environmental and public health issues through its grant programs and support for greater collaboration and coordination to integrate environmental justice between the agency's programs.

Statutory Authority:

Resource Conservation and Recovery Act (RCRA); Clean Water Act; Safe Drinking Water Act (SDWA); Clean Air Act; Toxic Substances Control Act (TSCA); Emergency Planning and Community Right-to-Know Act (EPCRA); Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); National Environmental Policy Act (NEPA); Pollution Prevention Act.

NEPA Implementation

Program Area: Enforcement

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Promote Pollution Prevention

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$15,586.2</i>	<i>\$16,210.0</i>	<i>\$17,758.0</i>	<i>\$1,548.0</i>
Total Budget Authority / Obligations	\$15,586.2	\$16,210.0	\$17,758.0	\$1,548.0
Total Workyears	105.8	104.8	104.8	0.0

Program Project Description:

Pursuant to the National Environmental Policy Act (NEPA) and as mandated by Section 309 of the Clean Air Act, the EPA’s NEPA Implementation program reviews all of the approximately 350 to 450 Environmental Impact Statements (EISs) produced annually by the federal government, as well as environmental assessments associated with major projects or those which could lead to or have significant environmental impacts. Under NEPA, an EIS is required for major federal actions significantly affecting the environment. The review of each EIS includes assessing potential environmental impacts, as well as identifying options for avoiding or mitigating them. The NEPA Implementation program also guides the EPA’s compliance with NEPA, the National Historic Preservation Act, and other relevant statutes and Executive Orders. The program manages the official EIS filing system for all federal EISs, in accordance with a Memorandum of Understanding with the Council on Environmental Quality.⁹⁰ Additionally, the program manages the review of Environmental Impact Assessments of non-governmental activities in Antarctica, in accordance with the Antarctic Science, Tourism and Conservation Act.

In support of its mission, the program fosters cooperation among federal agencies to ensure compliance with applicable environmental statutes, promotes better integration of pollution prevention and ecological risk assessment elements into federal programs, and provides technical assistance in developing projects that prevent adverse environmental impacts. The program encourages other federal agencies to incorporate environmental justice considerations into their decision making as they perform environmental analyses (both EISs and Environmental Assessments) under NEPA to ensure that the environment and health in overburdened communities are protected. In its review of EISs associated with major federal actions, the NEPA Implementation program focuses on high impact federal program areas such as energy development, transportation, and water resources projects. The program also develops agency policy and technical guidance on issues related to NEPA, the Endangered Species Act, the National Historic Preservation Act, and relevant Executive Orders.

⁹⁰ Memorandum of Agreement No. 1 Between The Council on Environmental Quality and The Environmental Protection Agency, October 1977.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to work with OMB, CEQ, and other federal agencies to streamline and improve the NEPA process. This work will build on the EPA's participation in the development of the interagency "Implementation Plan for the Presidential Memorandum on Modernizing Infrastructure Permitting"⁹¹ in support of the Cross-Agency Goal on Infrastructure Permitting Modernization. In addition, the EPA will work with agencies as they implement the requirements of FAST-41, which sets out new requirements to streamline infrastructure permitting project reviews.⁹² The program will devote resources to participating in additional early permit/NEPA reviews, developing innovative mitigation approaches, and promoting the use of IT tools. The program has been successful at working with other federal agencies to ensure that project proposals are designed in a manner that protects environmental and community resources.

In FY 2015, the EPA issued comment letters on over 350 draft and final Environmental Impact Statements (EISs) as well as numerous environmental assessments and proposed regulatory and legislative changes.⁹³ These included EISs concerning renewable energy, oil and gas exploration or extraction, and mining and transmission lines. Seventy-five percent of the significant impacts identified in the EPA's comment letters on Draft EISs were avoided, minimized, or compensated for ("mitigated") by the lead agencies in the Final EISs published in FY 2015.⁹⁴

With regard to IT tools, the program will continue to use and promote *NEPAAssist*, a geographic information system (GIS) tool developed to assist users (the EPA, other federal agencies, and the public) with environmental reviews. Approximately 900 users visit the website each month and 83 percent are return visitors. The EPA also will continue to utilize and improve *e-NEPA*, a web-based system for federal agencies to file EISs and to make comments on EISs accessible to the public on a centralized website.

FY 2017 work will focus on a number of key areas such as reviewing and commenting on proposals for oil and gas leasing and extraction, liquified natural gas export facilities, oil and gas pipelines, coal and hard-rock mining, renewable energy development (e.g., solar and wind projects); nuclear power licensing/re-licensing; highway and airport expansion; flood control, port development; and management of national forests and public lands. In support of the President's Climate Action Plan, the EPA will work to assist other federal agencies to improve the analysis of climate change issues under NEPA, including estimating greenhouse gas emissions associated with federal actions and consideration of mitigation measures, as well as fostering climate resiliency.

In FY 2017, the EPA will continue to review NEPA documents related to permit applications for coal mining in Appalachia, and will work through the NEPA process with other federal agencies to protect the local environment and communities adjacent to proposed mining operations. In addition, the EPA will continue its successful collaboration efforts with federal land management agencies to ensure the growing number of oil and natural gas development projects do not cause significant adverse air quality impacts, which can affect local communities. The EPA will continue working

⁹¹ For additional information, refer to: <http://www.permits.performance.gov/pm-implementation-plan-2014.pdf>.

⁹² For additional information, refer to: <https://www.transportation.gov/fastact>.

⁹³ For additional information, refer to: <http://www.epa.gov/compliance/nepa/eisdata.html>.

⁹⁴ For additional information, refer to: <http://www.epa.gov/nepa/national-environmental-policy-act-nepa-2015-annual-results>.

with other agencies to reduce the aggregate time it takes to conduct reviews and make permitting decisions, and produce measurably better environmental and community outcomes.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$631.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$917.0) This program change provides essential funding to support EIS reviews, interagency collaboration to implement new legislation affecting infrastructure projects, and to support and enhance the *NEPAssist* and *e-NEPA* tools for improved public service and transparency.

Statutory Authority:

National Environmental Policy Act (NEPA); Clean Air Act, § 309; Antarctic Science, Tourism, and Conservation Act; Clean Water Act, § 511(c); Endangered Species Act; National Historic Preservation Act; Archaeological and Historic Preservation Act; Fishery Conservation and Management Act; Fish and Wildlife Coordination Act; Fixing America's Surface Transportation Act Title 41.

Program Area: Geographic Programs

Great Lakes Restoration

Program Area: Geographic Programs

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$289,507.2	\$300,000.0	\$250,000.0	(\$50,000.0)
Total Budget Authority / Obligations	\$289,507.2	\$300,000.0	\$250,000.0	(\$50,000.0)
Total Workyears	78.4	71.7	71.7	0.0

Program Project Description:

The Great Lakes are the largest system of surface freshwater on Earth, containing 20 percent of the world’s surface freshwater and 95 percent of the United States’ surface freshwater. The watershed includes two nations, eight U.S. states, two Canadian provinces, and more than 40 tribes.

Through a coordinated interagency process led by the EPA, implementation of the *Great Lakes Restoration Initiative* (GLRI) is helping to restore the Great Lakes ecosystem, enhance the economic health of the region, and ultimately improve the public health protection for the area’s 30 million Americans. This interagency collaboration accelerates progress, avoids potential duplication of effort, and saves money. The goal of the GLRI is to restore and maintain the environmental integrity of the Great Lakes ecosystem, in accordance with the *Great Lakes Water Quality Agreement* and the Clean Water Act. Using funds appropriated to the EPA to supplement their base funding, agencies fund work directly or through others such as states, tribes, cities, universities, and non-governmental organizations. The EPA and its partners have achieved significant results since GLRI started in FY 2010, including:

- The Presque Isle (PA), Deer Lake (MI), and White Lake (MI) Areas of Concern (AOC) were delisted. Federal agencies and their partners have also completed management actions necessary for delisting four additional AOCs.⁹⁵
- 50 Beneficial Use Impairments (BUIs) at 18 AOCs in the eight Great Lakes States have been removed, five times the total number of BUIs removed in the preceding 22 years.¹
- Over 3.5 million cubic yards of contaminated sediment has been remediated through GLRI-associated projects.
- GLRI partners implemented invasive species control activities on over 100,000 acres.
- GLRI has been central to the Administration’s coordinated efforts to keep self-sustaining populations of silver, bighead, and black carp out of the Great Lakes.¹
- Over 1 million acres of agricultural land in the Great Lakes watershed were put into conservation contracts to reduce erosion and loadings of nutrients and/or pesticides.¹
- More than 3,800 river-miles have been cleared for fish passage.

⁹⁵ Results footnoted with “1” were achieved through a combination of GLRI funding and other non-GLRI federal and/or state funding.

- More than 150,000 acres of wetland, coastal, upland, and island habitat have been protected, restored, or enhanced.
- For the first time, 100 percent of U.S. Great Lakes coastal wetlands have been assessed.
- Projects were implemented that lead to 15 populations of native aquatic non-threatened and non-endangered species becoming self-sustaining in the wild.¹
- GLRI partners implemented a coordinated, intensive science and monitoring plan for each Lake through the Cooperative Science and Monitoring Initiative.¹
- In FY 2015, over 300 educators were given hands-on training in Great Lakes based education and stewardship. These educators will reach an average of over 50,000 students annually.

GLRI funds are appropriated to the EPA. After agreement on priorities, the EPA then provides a substantial portion of those funds to its partner federal agencies. Agencies undertake projects themselves and also fund projects performed by other entities such as states, tribes, municipalities, counties, universities, and nongovernmental organizations. The EPA has taken concrete steps to accelerate the expenditures of GLRI funds, such as: 1) looking at potential recipients' past expenditure rates before issuing new awards; 2) increasing monitoring of award recipients; and 3) taking steps to hold recipients to their workplan commitments. Building on the reduction in cumulative unliquidated obligations in 2014, the EPA and its federal partners will continue efforts to reduce prior year funding balances.

In FY 2015, the GAO reviewed how GLRI funds had been used and developed draft recommendations regarding the system that existed then for tracking GLRI projects, ensuring the accuracy of project information, and including guidance for entering information. The EPA implemented GAO's recommendations⁹⁶ prior to the finalization of GAO's report. The GAO reviewed the actions taken and determined that the recommendations had been addressed. As a result, GAO's July 21, 2015, final report, entitled Great Lakes Restoration Initiative: Improved Data Collection and Reporting Would Enhance Oversight (GAP-15-526) contained no recommendations for the EPA.

FY 2017 Activities and Performance Plan:

In FY 2017, the GLRI will continue to support programs and projects which target the most significant environmental problems in the Great Lakes. In 2017, emphasis will continue to be placed on: 1) cleaning up and delisting Areas of Concern; 2) reducing phosphorus contributions from agricultural and urban lands that contribute to harmful algal blooms and other water quality impairments; and 3) invasive species prevention. The new GLRI Action Plan (Action Plan II)

⁹⁶ The new system (Environmental Accomplishments in the Great Lakes or "EAGL") implements several improvements over the previous system, including:

- The EAGL information system improves data quality and verification by requiring the federal GLRI agencies, rather than hundreds of funding recipients, to report on projects and progress.
- The EAGL information system makes key project information mandatory, rather than optional.
- The EAGL information system will collect information pertaining to progress on all of the measures in GLRI Action Plan II.
- Using the EAGL, federal agencies will report progress on a greater portion of their GLRI resources.
- Extensive guidance documents are being developed for the EAGL information system. Drafts were tested for a mid-year reporting pilot.

targets GLRI restoration within five Focus Areas. Work within the Focus Areas will be evaluated annually to prioritize future work. Objectives for each Focus Area are described below.

Toxic Substances and Areas of Concern:

- **Remediate, restore and delist Areas of Concern.** The EPA, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, U.S. Geological Survey, National Oceanic and Atmospheric Administration, and other GLRI partners will continue accelerating the pace of U.S. AOC delistings. The EPA and its federal partners will work with and fund stakeholders to remove BUIs (indicators of poor environmental health) and implement management actions necessary for delisting in the remaining U.S. AOCs. Agencies target collective efforts under the GLRI to maximize delistings of AOCs and removal of BUIs. Agencies will support BUI removal through sediment remediation under the Great Lakes Legacy Act (part of the GLRI) and other restoration activities.
- **Increase knowledge about contaminants in Great Lakes fish and wildlife.** Federal agencies and their partners will provide information on the health risks and benefits of Great Lakes fish consumption, including targeted outreach to high-risk fish consuming populations. Federal agencies and partners will evaluate emerging contaminants that have the greatest potential to adversely impact Great Lakes fish and wildlife – impacts which may also result in ecological, economic and recreational consequences.

Invasive Species:

- **Prevent new introductions of invasive species.** Federal agencies and their partners will continue to prevent new invasive species (including Asian Carp) from establishing self-sustaining populations in the Great Lakes ecosystem. Federal agencies and their partners will work to increase the effectiveness of existing surveillance programs by establishing a coordinated, multi-species early detection network. Federal agencies will support state and tribal efforts to develop and implement Aquatic Nuisance Species Management Plans which will be used for annual “readiness exercises” and actual responses to new detections of invasive species. Competitive grant programs will continue to fund new initiatives to block pathways through which invasive species can be introduced to the Great Lakes ecosystem. Risk assessments will continue to be refined to inform the targeting of species, pathways and sites for early detection monitoring. Because the Great Lakes can be an invasion pathway to the 31 states within the Mississippi River watershed and beyond, these prevention efforts also will benefit the entire nation.
- **Controlling invasive species in the Great Lakes Basin.** Federal agencies and their partners will restore sites degraded by aquatic, wetland and terrestrial invasive species. Federal agencies will implement control projects in national forests, parks and wildlife refuges and will partner with states and neighboring communities to promote larger scale protection and restoration through the Midwest Invasive Plant Network and the Cooperative Weed Management Area control programs. The GLRI funding will help the Great Lakes Sea Lamprey Control Program to expand the strategic use of tributary barriers and traps as an alternative to chemical control.
- **Develop invasive species control technologies and refine management techniques.** Federal agencies and their partners will continue to develop and enhance technologies to control Great Lakes invasive species. Federal agencies also will develop and enhance invasive species “collaboratives,” such as the Great Lakes Phragmites Collaborative, to support rapid responses and to communicate the latest control and management techniques. The GLRI funding will

support development or enhancement of species-specific collaborations for Phragmites, monocious Hydrilla, as well as other invasive species.

Nonpoint Source Pollution Impacts on Nearshore Health:

- **Reduce nutrient loads from agricultural watersheds.** Federal agencies and their partners will continue to reduce nutrient runoff in agricultural watersheds targeted through the GLRI science-based adaptive management process. The work will: advance drinking water source protection, increase voluntary agricultural conservation practices to achieve downstream water quality improvements; track nutrient and sediment reductions achieved through conservation practices; use voluntary, incentive-based and existing regulatory approaches to reduce nutrient losses; encourage producers and agribusinesses to adopt innovative technologies and approaches to reduce nutrient runoff and soil losses; and educate agricultural producers about the links between long-term productivity, nutrient conservation and water quality. Federal agencies and their partners will develop assessments of the extent to which harmful algal blooms are impacted by various factors and of the relationship between algal blooms and hypoxia. Federal agencies will target resources and activities at locations that are the most significant cause of this problem.
- **Reduce untreated runoff from urban watersheds.** Federal agencies and their partners will continue to implement watershed management and green infrastructure projects to reduce the impacts of polluted urban runoff on nearshore water quality at beaches and in other coastal areas. These projects will capture or slow the flow of untreated runoff and filter out sediment, nutrients, toxic contaminants, pathogens and other pollutants prior to entering Great Lakes tributaries and nearshore waters. Federal agencies and their partners will build green infrastructure, install tributary buffers, restore coastal wetlands, and re-vegetate and re-forest areas near Great Lakes coasts and tributaries. These and other actions to reduce untreated runoff will be implemented in urban areas that have adopted watershed management strategies, strategically targeting selected watersheds and sub-watersheds for reductions.

Habitats and Species:

- **Protect, restore and enhance habitats to help sustain healthy populations of native species.** Federal agencies and their partners will implement protection, restoration and enhancement projects focused on open water, nearshore, connecting channels, coastal wetland and other habitats. Projects will be largely based on priorities in regional-scale conservation strategies and will include:
 - Removing dams and replacing culverts to create fish habitat and reconnect migratory species to Great Lakes tributaries.
 - Restoring riparian and in-stream habitat to prevent erosion and to create sufficient habitat for aquatic species.
 - Protecting, enhancing and restoring coastal wetlands.
 - Restoring habitat necessary to sustain populations of migratory native species.
 - Implementing off shore reef rehabilitation projects to promote natural fish spawning.
 - Protecting, restoring, and managing existing wetlands and high-quality upland areas to sustain diverse, complex, and interconnected habitats for species reproduction, growth, and seasonal refuge.
- **Maintain, restore and enhance populations of native species.** Federal agencies and their partners will work to maintain, restore and enhance populations of native fish and wildlife

species. Projects will be targeted based on restoration and conservation plans and will: protect and restore species diversity; reintroduce populations of native species to restored habitats and evaluate their survival; protect or restore culturally significant species; manage invasive species that inhibit the sustainability of native species; pioneer species propagation and relocation techniques; and implement other activities necessary for the eventual recovery of federal and state threatened and endangered species.

Foundations for Future Restoration Actions:

- **Ensure climate resilience of GLRI-funded projects.** Federal agencies will develop standardized climate resiliency criteria that will be used to design and select GLRI projects. These criteria will ensure, for example, that GLRI restoration projects incorporate plant and tree species that are suitable for current and projected future climatic conditions. Similarly, these criteria will be used to design watershed restoration projects to take into account potential impacts of more frequent or intense storms on water flow, erosion and runoff.
- **Educate the next generation about the Great Lakes ecosystem objectives:** Federal agencies and their partners will promote Great Lakes-based environmental education and stewardship for students and other interested audiences (e.g., courses at parks, nature centers, museums and zoos). With an emphasis on training educators to maximize the number of students engaged, GLRI partners will work with existing environmental education programs, foster the growth of new programs, and align new and/or existing curricula with the Great Lakes Literacy Principles as well as state and national academic learning standards. Federal agencies that are stewards of lands and waters important to the Great Lakes ecosystem also will provide place-based experiential learning to the public.
- **Implement a science-based adaptive management approach for GLRI.** The GLRI science-based adaptive management process⁹⁷ will guide restoration and protection actions by using the best available science and applying lessons learned from past and ongoing GLRI projects and programs. Federal agencies involved in the GLRI will use this process to continue to identify the most critical environmental problems in the Great Lakes ecosystem; evaluate project effectiveness; assess overall ecosystem health; and select projects that most effectively address those problems. As part of this process, federal agencies will consult with their state and tribal partners and will seek input from the Great Lakes Advisory Board, the scientific community, Lakewide Action and Management Plan partnerships and the general public.

Funding Allocations. The EPA leads the Interagency Task Force (IATF) process to develop funding allocations for member agencies. The EPA, following consultation with members of the IATF, determines the final programs and projects for funding.

⁹⁷ Two science-based planning processes are involved — one that occurs every five years and one that is implemented annually. Every five years, federal agencies develop a GLRI Action Plan to establish principal initiatives, commitments, metrics and long-term goals. Federal agencies also conduct annual planning to identify specific projects and programs to target the highest priority problems in the Great Lakes ecosystem.

Summary of FY 2010 - 2017 Allocations by Focus Area

Focus Area Allocations (Dollars in Thousands)								
Focus Area	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016 ^[a]	FY 2017 ^[b]
Toxic Substances and Areas of Concern	\$146,946	\$100,400	\$107,500	\$111,000	\$104,600	\$117,000	\$108,000	\$90,100
Invasive Species	\$60,265	\$57,500	\$56,900	\$45,000	\$54,600	\$53,000	\$57,000	\$43,600
Nonpoint Source Pollution Impacts on Nearshore Health ^[c]	\$97,331	\$49,250	\$54,300	\$45,000	\$59,700	\$55,000	\$49,000	\$45,300
Habitat and Species ^[d]	\$105,262	\$63,000	\$57,200	\$65,500	\$60,600	\$46,000	\$51,000	\$43,800
Foundations for Future Restoration Actions ^[e]	\$65,196	\$29,250	\$23,500	\$17,000	\$20,500	\$29,000	\$35,000	\$27,200
TOTAL	\$475,000	\$299,400	\$299,500	\$283,500	\$300,000	\$300,000	\$300,000	\$250,000

^[a] Allocations of a \$50 million increase appropriated in December 2015 are based on nominal allocations discussed with the Regional Working Group.

^[b] Based on allocations approved by the Interagency Task Force.

^[c] Nearshore Health and Nonpoint Source Pollution in FY 2010-2014.

^[d] Habitat and Wildlife Protection and Restoration in FY 2010-2014.

^[e] Accountability, Education, Monitoring, Evaluation, Communication, and Partnerships in FY 2010 – 2014.

Agency Allocations (Dollars in Thousands)								
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016 ^[a]	FY 2017 ^[b]
DHS-USCG	\$6,350	\$2,725	\$2,710	\$2,451	\$1,278	\$2,006	\$2,100	\$700
DOC-NOAA	\$30,537	\$18,289	\$16,243	\$25,505	\$35,170	\$19,693	\$15,100	\$5,700
DOD-USACE	\$49,587	\$31,425	\$35,647	\$31,622	\$28,655	\$47,424	\$27,900	\$10,200
DOI-BIA	\$3,416	\$6,316	\$4,719	\$3,985	\$3,950	\$3,950	\$6,300	\$4,200
DOI-NPS	\$10,505	\$4,861	\$3,527	\$3,013	\$3,177	\$3,142	\$3,600	\$3,200
DOI-FWS	\$69,349	\$48,690	\$45,700	\$40,001	\$49,038	\$41,393	\$37,900	\$26,800
DOI-USGS	\$23,717	\$14,532	\$13,052	\$12,662	\$19,832	\$23,433	\$18,600	\$10,400
DOT-FHWA	\$2,500	\$1,218	\$1,221	\$973	\$965	\$0	\$0	\$0
DOT-MARAD	\$4,000	\$2,695	\$2,447	\$2,311	\$1,791	\$1,291	\$2,100	\$800
HHS-ATSDR/CDC	\$5,500	\$2,196	\$2,200	\$1,416	\$1,739	\$1,738	\$1,700	\$1,300
USDA-APHIS	\$1,885	\$637	\$1,134	\$904	\$1,246	\$1,246	\$1,200	\$1,000
USDA-NRCS	\$34,092	\$16,788	\$27,185	\$20,529	\$24,280	\$23,281	\$19,200	\$18,500
USDA-USFS	\$15,458	\$8,890	\$6,718	\$6,029	\$6,401	\$6,290	\$11,600	\$7,400
EPA, GLFC, and Misc. Interagency Agreements	\$218,104	\$140,138	\$137,017	\$132,299	\$122,478	\$125,113	\$152,700	\$106,700
Multi-Agency AOCs ^[c]								\$30,000
Multi-Agency Asian Carp ^[d]								\$13,000
Multi-Agency Nutrient/Sediment Reduction ^[e]								\$800
Multi-Agency Habitat/Species ^[f]								\$3,600
Multi-Agency – Foundations ^[g]								\$5,700
TOTAL	\$475,000	\$299,400	\$299,500	\$283,698	\$300,000	\$300,000	\$300,000	\$250,000

- ^[a] Based on notional allocations being developed by the Regional Working Group.
- ^[b] Based on notional allocations approved by the Interagency Task Force.
- ^[c] EPA is discussing allocations of this portion of the AOC restoration funding with various states and agencies.
- ^[d] Asian carp funding is included in agency totals through FY 2016; the FY 2017 allocations have not yet been determined.
- ^[e] EPA is discussing allocations of this portion of the nutrient/sediment reduction funding with various agencies.
- ^[f] EPA is discussing allocations of this portion of the Habitat/Species funding with various agencies.
- ^[g] EPA is discussing allocations of this portion of the “Foundations for Future Restoration Actions” funding with various agencies.

Performance Targets:

Measure	(625) Areas of Concern Beneficial Use Impairments removed (cumulative).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	20	26	33	41	46	60	65	72	BUIs Removed
Actual	12	26	33	41	52	60			

Measure	(626) Number of Areas of Concern in the Great Lakes where all management actions necessary for delisting have been implemented (cumulative).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target		1	3	4	5	8	9	11	AOCs
Actual		2	2	3	7	7			

Measure	(628) Number of acres controlled by GLRI-funded projects (cumulative).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target		1,500	15,500	34,000	38,000	94,500	110,000	120,000	Acres
Actual		13,045	31,474	35,924	84,500	101,392			

Measure	(629) Number of GLRI-funded Great Lakes rapid responses or exercises conducted.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target		4	12	26	35	8	8	8	Number Responses/ Plans
Actual		8	23	30	38	21			

Measure	(638) Projected phosphorus reductions from GLRI-funded projects in targeted watersheds (measured in pounds).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target						130,000	310,000	525,000	Pounds
Actual						160,117			

Measure	(639) Projected volume of untreated urban runoff captured or treated by GLRI-funded projects. (Cumulative)								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target						30	70	120	Gallons (millions)
Actual						37			

Measure	(640) Number of miles of Great Lakes tributaries reopened by GLRI-funded projects. (Cumulative)								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target						2,200	4,200	4,500	Miles
Actual						3,855			

Measure	(641) Number of miles of Great Lakes shoreline and riparian corridors protected, restored, and enhanced by GLRI-funded projects. (Cumulative)								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target						75	350	400	Miles
Actual						313			

Measure	(642) Number of acres of Great Lakes coastal wetlands protected, restored, and enhanced by GLRI-funded projects. (Cumulative)								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target						7,000	15,000	30,000	Acres
Actual						7,033			

Measure	(643) Number of acres of other habitats in the Great Lakes basin protected, restored, and enhanced by GLRI-funded projects. (Cumulative)								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target						127,000	167,000	187,000	Acres
Actual						146,815			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$161.0) This change in fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$50,161.0) This net program change reflects a reduction in interagency agreements, grants, and contracts that support the GLRI. As a result, the EPA will place a greater focus on three continuing GLRI areas of emphasis: clean-up of Areas of Concern; preventing and controlling the spread of invasive species, and taking steps to address the causes of harmful algal blooms.

Statutory Authority:

Clean Water Act; 2012 Great Lakes Water Quality Agreement; Great Lakes Legacy Reauthorization Act of 2008; 1990 Great Lakes Critical Programs Act; Coastal Wetlands Planning, Protection, and Restoration Act of 1990; Estuaries and Clean Waters Act of 2000; North American Wetlands Conservation Act; Water Resources Development Act; 1987 Montreal Protocol on Ozone Depleting Substances; 1909 Boundary Waters Treaty.

Geographic Program: Chesapeake Bay

Program Area: Geographic Programs

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$86,722.6	\$73,000.0	\$70,000.0	(\$3,000.0)
Total Budget Authority / Obligations	\$86,722.6	\$73,000.0	\$70,000.0	(\$3,000.0)
Total Workyears	43.3	39.9	39.9	0.0

Program Project Description:

The Chesapeake Bay Program is a voluntary partnership initiated in 1983, that now includes the Chesapeake Bay watershed states (Delaware, Maryland, New York, Virginia, Pennsylvania, and West Virginia), the District of Columbia, the Chesapeake Bay Commission, and the federal government. The EPA represents the federal government on the partnership's Chesapeake Executive Council and, under the authority of Section 117 of the Clean Water Act, maintains a program office and works with the EC to coordinate activities of the partnership. In May 2009, President Obama signed Executive Order 13508, which tasked a Federal Leadership Committee to draft a path forward for protection and restoration of the Chesapeake Bay watershed.⁹⁸

On June 16, 2014, building largely from goals and processes established under the EO, the Chesapeake Bay Program partners signed the new Chesapeake Bay Watershed Agreement,⁹⁹ which provides for the first time the Bay's headwater states (Delaware, New York, and West Virginia) with full partnership in the Bay program. The Agreement establishes 10 goals and 31 outcomes for sustainable fisheries, water quality, vital habitats, climate change, toxic contaminants, and other areas consistent with the EO strategy.¹⁰⁰

Beginning in 2012, the EPA, the watershed jurisdictions, and other key federal agencies set two-year milestones for outcomes outlined in the EO strategy, the Bay Total Maximum Daily Load and the jurisdictions' Watershed Implementation Plans.¹⁰¹ The TMDL satisfies a requirement of the Clean Water Act and the EPA commitments under Court-approved consent decrees for Virginia and Washington, D.C. dating to the late 1990s.¹⁰² The TMDL is designed to ensure all nitrogen, phosphorus, and sediment pollution control efforts needed to fully restore the Bay and its tidal

⁹⁸ This plan, the *Strategy for Protecting and Restoring the Chesapeake Bay Watershed* [EPA-903-R-10-003], is available at <http://executiveorder.chesapeakebay.net/page/Reports-Documents.aspx>.

⁹⁹ The Chesapeake Bay Watershed Agreement (2014) available at http://www.chesapeakebay.net/documents/FINAL_Ches_Bay_Watershed_Agreement.withsignatures-HIres.pdf.

¹⁰⁰ The Chesapeake Bay Watershed Agreement Summary is available at <http://www.chesapeakebay.net/chesapeakebaywatershedagreement/page>.

¹⁰¹ The federal milestones related to water quality in the Chesapeake Bay watershed are available at http://executiveorder.chesapeakebay.net/EO_13508_Water_Quality_Milestones-2012-01-06.pdf. The jurisdictional milestones are available at <http://www.epa.gov/reg3wapd/tmdl/ChesapeakeBay/EnsuringResults.html>.

¹⁰² The Chesapeake Bay TMDL available at <http://www.epa.gov/chesapeakebaytmdl/>.

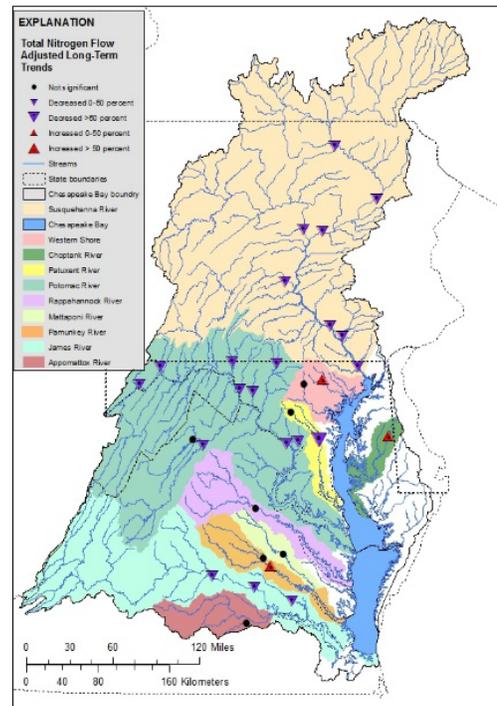
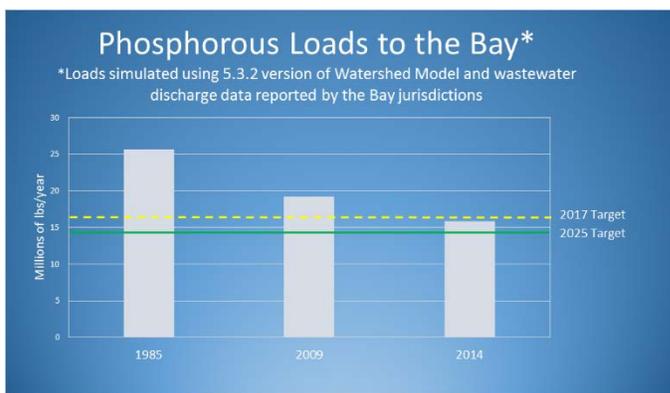
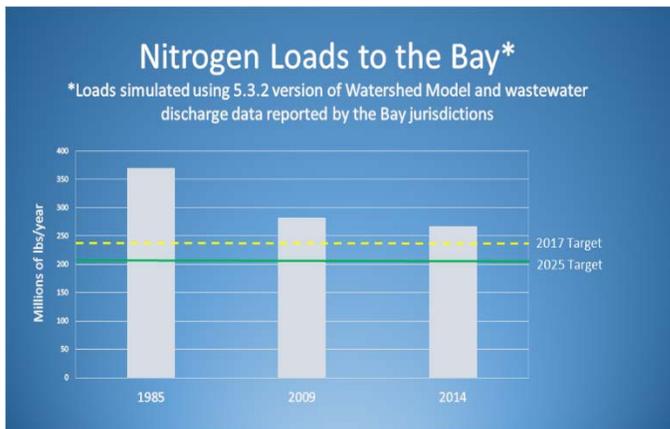
rivers are in place by 2025, with controls, practices, and actions in place by 2017 that would achieve 60 percent of the necessary pollution reductions.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA is requesting \$70 million for the Chesapeake Bay Program. Most of the EPA's direct efforts for FY 2017 will focus on implementation of the two-year workplans for the 25 management strategies developed under the 2014 Chesapeake Bay Watershed Agreement to achieve the 31 outcomes articulated in the Agreement. Particular focus for the EPA funds will be on the water quality outcomes that describe the commitment of the Agreement signatories for having practices in place to achieve 60 percent of the necessary pollutant reductions by 2017 and 100 percent by 2025. The EPA will assess the jurisdictions' progress toward the 2017 midpoint TMDL goal based on evidence from the Partnership's decision support tools and monitoring network and the implementation of the jurisdictions' water quality legislation, regulations, programs and capacity-building actions, and release its formal evaluation in spring 2018. Through FY 2017 and early 2018, as part of this TMDL Midpoint Assessment, the EPA and its Chesapeake Bay partners will review the latest science, data and best management practices to determine what additional efforts may be needed to continue progress and to help inform the development of the jurisdictions' Phase III WIPs in 2018. In addition, by the end of FY 2017, the jurisdictions will have EPA-approved verification programs in place to ensure that their practices and controls are properly installed, operating and maintained.

This priority funding will continue the EPA's activities, as well as the EPA's responsibilities related to oversight of the Chesapeake Bay TMDL, and support for the Bay watershed jurisdictions as they implement their WIPs. The EPA and its partners also will be developing or revising at least 20 new indicators to measure Bay restoration progress under the new Agreement. The EPA will continue to provide coordination to the broad range of program partnership teams and workgroups in developing and implementing the management strategies. The EPA's request also includes appropriate workforce support.

In 2014, the EPA did not meet its target for nitrogen and sediment loading reductions. Nitrogen from wastewater facilities and air deposition is being reduced as expected, but progress is slower in achieving reductions from the agricultural and urban/suburban sectors (stormwater and septic). In FY 2017, the EPA will continue its close work with the other agencies involved in responding to the President's EO, the jurisdictions and thousands of local governments by providing financial support and technical guidance so that the jurisdictions and other agencies can efficiently implement the Agreement and the TMDL. Thirty-four million dollars is requested for grants to states for WIP implementation. The EPA will continue its broad range of grant programs and will prioritize funding for jurisdictions, local governments, and watershed organizations based on their proven ability to address the Bay Agreement goals and outcomes. For example, the EPA is working with Pennsylvania to focus the state's Chesapeake Bay Implementation Grant and Chesapeake Bay Regulatory and Accountability Grant workplans and budgets on geographic areas and agricultural practices (e.g., stream fencing, riparian forest buffers, nutrient management) and/or urban practices which provide for the most cost effective and higher nutrient and sediment pollutant load reductions delivered to downstream Chesapeake Bay tidal waters.



Flow-adjusted trends for total nitrogen for 31 sites in the Chesapeake Bay Watershed, 1985-2011.

The program is making continual progress toward its 2017 targets for pollution controls. By FY 2017, the program expects to achieve 52.5 percent of its goals for implementing nitrogen, phosphorus and sediment reduction actions to achieve final TMDL allocations, as measured through the phase 5.3.2 watershed model.

The EPA will continue to support innovative environmental technologies, market mechanisms, and alternative financing strategies to achieve the goals of the TMDL. In addition to addressing nutrient and sediment loadings, the EPA, with its federal and jurisdictional partners, will implement an updated toxics management strategy. The agency will continue refining and improving ChesapeakeStat,¹⁰³ a web-based tool for transparent reporting of progress on the 2014 Chesapeake Bay Watershed Agreement and performance-based decision-making for all Bay partners, and the Bay Tracking and Accounting System (BayTAS). In FY 2017, the EPA also will begin implementation of the Chesapeake Bay Accountability and Recovery Act of 2014, which requires new financial reporting and independent program evaluation. The EPA will continue to promote the use of the basin-wide Best Management Practice Verification Framework, and work with the jurisdictions to enhance their verification of pollutant reduction practices, treatments, and technologies through implementation of their verification program plans approved by the EPA in the 2016.

In FY 2017, the EPA will continue implementation of its compliance and enforcement strategy to target sources of pollution (nutrients, sediment and toxics) in the watershed and airshed that are impairing the Bay. The EPA will rely on the increased data availability for NPDES sources and

¹⁰³ Chesapeake Bay Program. 2015. <http://chesapeakestat.com/>.

their compliance status through e-Reporting into the Integrated Compliance Information System. The EPA's water, air and waste enforcement authorities will be used to address violations of federal environmental laws resulting in nutrient, sediment, and other pollution in the Bay. The EPA will continue to use an evidence-based approach to its oversight of Bay jurisdictions through assessment and review of two-year milestones, agricultural programs, stormwater programs, trading and offset programs, and permits and associated management plans. In addition to its review of states' and federal agencies' proposed two-year water quality milestones, the EPA will conduct interim and final assessment of progress under those two-year milestones, incorporate changes to annual grant guidance, and review, comment, and ultimately approve the states' Chesapeake Bay Implementation Grant and Chesapeake Bay Regulatory and Accountability Grant workplans and budgets. In addition, the EPA has developed, in conjunction with other federal agencies, protocols for setting nutrient and sediment reduction targets at federal facilities. In FY 2017, the EPA will work with other federal agencies to implement and report on two-year milestones intended to achieve the targets set based on that protocol.

Performance Targets:

Measure	(234) Reduce per capita nitrogen loads (pounds per person per year) to levels necessary to achieve Chesapeake Bay Total Maximum Daily Load allocations.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target				15.17	15	14.5	14	13.5	Pounds/Person/Year
Actual				14.92	14.7	14.8			

Measure	(cb6) Percent of goal achieved for implementing nitrogen reduction actions to achieve the final TMDL allocations, as measured through the phase 5.3 watershed model.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target		1	15	22.5	30	37.5	45	52.5	Percent Goal Achieved
Actual		8	21	25	27	21			

Measure	(cb7) Percent of goal achieved for implementing phosphorus reduction actions to achieve final TMDL allocations, as measured through the phase 5.3 watershed model.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target		1	15	22.5	30	37.5	45	52.5	Percent Goal Achieved
Actual		1	19	27	43	71			

Measure	(cb8) Percent of goal achieved for implementing sediment reduction actions to achieve final TMDL allocations, as measured through the phase 5.3 watershed model.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target		1	15	22.5	30	37.5	45	52.5	Percent Goal Achieved
Actual		11	30	32	37	25			

For FY 2017, the EPA, along with other agencies involved in responding to the President's EO, will be working toward the outcomes articulated in the Chesapeake Bay Watershed Agreement and the EO strategy. Shorter-term goals will be identified in the Agreement's management strategies and two-year workplans and in federal two-year milestones for water quality, as well as jurisdiction two-year milestones for TMDL implementation. The EPA's measures for reducing nitrogen,

phosphorus, and sediment are directly aligned with the Executive Order strategy water quality outcome to “meet water quality standards for dissolved oxygen, clarity/underwater grasses and chlorophyll-a in the Bay and tidal tributaries by implementing 100 percent of pollution reduction actions for nitrogen, phosphorus and sediment no later than 2025—with 60 percent of segments attaining water quality standards by 2017.” For FY 2017, the performance target is 52.5 percent of goal achieved for implementing nitrogen, phosphorus, and sediment reduction actions to achieve the final TMDL allocations, as measured through the phase 5.3 watershed model.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$206.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$3,206.0) This program change reflects a reduction in resources to support Bay restoration. The reduction will impact the level of State Grant funding and implementation of both the Bay Watershed Agreement and the Watershed Implementation Plans that support the Bay TMDL.

Statutory Authority:

Clean Water Act, §§ 117, 303; Estuaries and Clean Waters Act of 2000; Chesapeake Bay Accountability and Recovery Act of 2014; Clean Air Act.

Geographic Program: San Francisco Bay

Program Area: Geographic Programs

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$9,277.4	\$4,819.0	\$4,040.0	(\$779.0)
Total Budget Authority / Obligations	\$9,277.4	\$4,819.0	\$4,040.0	(\$779.0)
Total Workyears	1.6	1.9	1.9	0.0

Program Project Description:

The EPA is collaborating with agencies and non-governmental organizations to implement the seven-point *Bay Delta Action Plan* (2012) designed to protect and restore water quality, aquatic life, and ecosystem processes in the San Francisco Bay/Sacramento-San Joaquin Delta.¹⁰⁴ The EPA's top priority remains assisting the State Water Resources Control Board with the comprehensive update of the Bay Delta Water Quality Control Plan.¹⁰⁵ The schedule for that process was delayed as the California State Water Board responded to the multi-year drought and demands on scarce freshwater resources from all sectors. Nonetheless, in November 2015, the state signaled the imminent release of the Phase 1 plan under the WQCP (governing the lower San Joaquin River) and the *Scientific Basis Report* for Phase 2 (governing the Delta Proper).

One of the EPA's most tangible contributions toward protecting and restoring the Bay continues to be our funding to implement restoration projects under the San Francisco Bay Water Quality Improvement Fund (WQIF).¹⁰⁶ The projects are designed to repair historical environmental damage while also making the Bay, its tributaries, and surrounding wetlands more resilient to drought, floods, sea level rise, and climate change. In 2015, the EPA issued a six-year *Progress Report* profiling our \$40 million investment in 58 projects that leveraged an additional \$149 million in matching funds.

The EPA remains engaged with the California Department of Water Resources and U.S. Bureau of Reclamation in the design, permitting, construction, and operation of two new tunnels for carrying water from north to south across the Delta. In 2015, the lead agencies modified the proposed project into a water diversion and conveyance project known as California Water Fix.¹⁰⁷ The Habitat Conservation Plan featured under the original project proposal (known as the Bay Delta Conservation Plan) was downsized and re-cast as EcoRestore.¹⁰⁸ In October 2015, the EPA finalized its review of the National Environmental Policy Act document for the California Water

¹⁰⁴ EPA Bay Delta Action Plan (2012). <http://www2.epa.gov/sfbay-delta/bay-delta-action-plan>.

¹⁰⁵ State Water Board Bay Delta Water Quality Control Plan. http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2012_sed/.

¹⁰⁶ EPA's San Francisco Bay Water Quality Improvement Fund <http://www.epa.gov/sfbay-delta/sf-bay-water-quality-improvement-fund>.

¹⁰⁷ California Water Fix. <http://www.californiawaterfix.com/>.

¹⁰⁸ California EcoRestore. <http://resources.ca.gov/ecorestore/>.

Fix project and assigned it a numerical rating of “3” (Inadequate). Shortly thereafter, the EPA finalized its Aquatic Resource of National Importance determination for the proposed project under CWA §404, and reaffirmed its designation of the Delta as an *Aquatic Resource of National Importance*. Our work with the Sacramento Corps District on §404 permitting for the proposed project will continue through FY 2017.

Economic and environmental services provided by the Bay Delta include:

- Drinking water for 25 million residents;¹⁰⁹
- Irrigation water that underpins an agricultural sector worth \$37.5 billion in revenue;¹¹⁰
- Aquatic habitat for two-thirds of California’s salmon fishery; the closure of which would cost over 1,800 jobs and \$118.4 million in income (2008-2009);¹¹¹ and
- Wetlands to support at least 50 percent of the migratory water birds on the Pacific Flyway.

FY 2017 Activities and Performance Plan:

In FY 2017 the EPA will focus on the following activities:

- Continue to implement the Bay Delta Action Plan in accordance with the EPA’s SF Bay WQIF, the EPA’s Climate Change Adaptation Implementation Plan,¹¹² the State Water Board’s *Strategic Workplan for the Bay Delta* (2008),¹¹³ the Delta Stewardship Council’s Delta Plan and Delta Science Program,¹¹⁴ the Delta Conservancy’s Strategic Plan (2012),¹¹⁵ and the San Francisco Estuary Partnership’s Comprehensive Conservation and Management Plan.¹¹⁶
- Partner with state and federal agencies to implement and track fourteen TMDLs,¹¹⁷ advance the implementation of the Delta Regional Monitoring Program,¹¹⁸ and begin melding the monitoring of fish and aquatic life under the Interagency Ecological Program with the monitoring of water quality and habitat conditions under the Bay and Delta RMPs, and the regional HCPs, respectively.¹¹⁹

¹⁰⁹ *Sustainable Water and Environmental Management in the California Bay-Delta*. 2012. National Academies Press http://www.nap.edu/openbook.php?record_id=13394&page=1.

¹¹⁰ Agricultural Statistical Overview. 2011-2012. California Department of Food and Agriculture. <http://www.cdffa.ca.gov/statistics/pdfs/AgStatOverview2011-12.pdf>.

¹¹¹ UOP Business Forecasting Center. 2010. *Employment Impacts of California Salmon Fishery Closures 2008-2009* <http://forecast.pacific.edu/BFC%20salmon%20jobs.pdf>.

¹¹² EPA Region 9 Climate Change Adaptation Implementation Plan (2013) <http://epa.gov/climatechange/Downloads/impacts-adaptation/region-9-plan.pdf>.

¹¹³ State Water Board Strategic Workplan for the Bay Delta (2008) http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/strategic_plan/docs/baydelta_workplan_final.pdf.

¹¹⁴ Delta Stewardship Council’s Delta Plan and endorsement of High Impact Science Actions (2015) <http://deltacouncil.ca.gov/enewsletter/stories/july-2015/delta-plan-interagency-implementation-committee-members-endorse-list>.

¹¹⁵ Delta Conservancy’s Strategic Plan (2012), and the *Northeast Delta Landscape Restoration Framework*. <http://deltaconservancy.ca.gov/strategic-plan/>.

¹¹⁶ SFEP Comprehensive Conservation and Management Plan (2007) <http://www.sfestuary.org/wp-content/uploads/2013/01/Final-CCMP-9-6-07.pdf>.

¹¹⁷ SF Bay Delta TMDL Progress Assessment <http://www2.epa.gov/sfbay-delta/sf-bay-delta-tmdl-progress-assessment>.

¹¹⁸ Delta Regional Monitoring Program – Regional Water Control Board (Central Valley) http://www.swrcb.ca.gov/rwqcb5/water_issues/delta_water_quality/comprehensive_monitoring_program/index.shtml.

¹¹⁹ Interagency Ecological Program <http://www.water.ca.gov/iep/activities/monitoring.cfm>.
Habitat Restoration in the Sacramento-San Joaquin Delta and Suisun Marsh; Delta Independent Science Board http://deltacouncil.ca.gov/sites/default/files/documents/files/HABITAT_RESTORATION_REVIEW_semifinal.pdf.

- Increase the EPA’s coordination with U.S. Department of Agriculture – Natural Resources Conservation Service to meld our Bay Delta Action Plan and the EPA’s Regional agriculture strategy with NRCS’ Regional Conservation Partnership Program wherein the Bay Delta is designated a Critical Conservation Area.¹²⁰
- Increase our coordination with the California Department of Water Resources and the Sacramento Corps District to meld the Central Valley Flood Management Planning Program with large-scale habitat restoration programs.¹²¹

Performance Targets:

The EPA performs this work under the Protect and Restore Watersheds and Aquatic Ecosystems objective. Currently there are no performance measures specific to this program. The collective work of the EPA, other agencies, and NGOs is documented in the progress reports produced by the EPA, such as the *Progress Report* for the SF Bay WQIF and the *Progress Assessment*¹¹⁷ for implementing and tracking the TMDLs. In 2015, three major reports were issued by the EPA’s partners: the *State of the Estuary Report 2015*¹²², the *Pulse of the Bay*¹²³, and the *Bayland Ecosystem Habitat Goals*.¹²⁴ The agency will use these documents to guide future regulatory and non-regulatory decisions. Given the extreme differences in the geography, ecology, and cultural histories of the Bay and Delta, they are typically treated as separate, distinct entities even though they are actually part of a huge, interconnected ecosystem (linking the Sierra Nevada, Central Valley, and Bay Area).

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$779.0) This program change will reduce efforts to address Bay Delta Action Plan goals of improving water quality and restoring habitat in the San Francisco Bay Delta Estuary.

Statutory Authority:

Clean Water Act.

¹²⁰ NRCS Regional Conservation Partnership Program (RCPP)

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/ca/programs/farmland/rcpp/>

¹²¹ DWR Central Valley Flood Management Planning Program <http://www.water.ca.gov/cvfmfp/>.

¹²² State of the Estuary Report 2015 <http://www.sfestuary.org/about-the-estuary/soter/>.

¹²³ Pulse of the Bay <http://www.sfei.org/programs/pulse-bay>.

¹²⁴ Bayland Ecosystem Habitat Goals

<http://www.sfei.org/news/baylands-goals-report-released-flurry-media-attention>.

Geographic Program: Puget Sound

Program Area: Geographic Programs

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$27,904.0</i>	<i>\$28,000.0</i>	<i>\$30,034.0</i>	<i>\$2,034.0</i>
Total Budget Authority / Obligations	\$27,904.0	\$28,000.0	\$30,034.0	\$2,034.0
Total Workyears	5.9	6.0	6.0	0.0

Program Project Description:

The Puget Sound is a designated estuary of national significance under the Clean Water Act National Estuary Program. The health and productivity of Puget Sound is a cornerstone of the region’s vibrant economy and quality of life. Almost 60 percent of Washington’s 7 million people live in the Puget Sound basin. Nearly 71 percent of all jobs and 77 percent of total income in Washington are found in the Puget Sound basin.¹²⁵

The beneficial uses of the Puget Sound ecosystem have been degraded and continue to be threatened. Twenty two populations of Chinook salmon that use Puget Sound classified as threatened in 2005 under the Endangered Species Act remain threatened with extinction and only one of the remaining populations has shown any increase in abundance since 2006.¹²⁶ Untreated stormwater pollution and agricultural runoff threaten the safe harvest and consumption of shellfish across 143,000 acres of shellfish beds and are responsible for the closure of hundreds of popular swimming beaches and recreational sites annually. Tribal nations are unable to sustain their culture and way of life, because beneficial uses of Puget Sound – upon which they depend and which are guaranteed by treaties – are increasingly imperiled. The work of the Puget Sound program to protect and restore habitat for treaty resources and improve water quality is beneficial to all the Puget Sound tribes including the native youth in these tribes.

As part of the EPA’s direct partnership with tribes in addressing Tribal priorities, including efforts in supporting tribal youth, and the overall health of the Puget Sound ecosystem, the EPA Puget Sound Program funds assistance agreements with all of the 19 federally recognized tribes in Puget Sound, three Tribal consortia, and the NW Indian Fisheries Commission. The EPA co-chairs the overall federal effort to address Tribal Treaty Rights at Risk,¹²⁷ consistent with the roles assigned by the Council on Environmental Quality. In FY 2017, the EPA will work closely with the National Oceanic and Atmospheric Administration and the U.S. Department of Agriculture’s Natural Resources Conservation Service to implement priority projects for riparian protection and restoration. Additionally, the EPA will continue to provide leadership for the Puget Sound Federal

¹²⁵The Action Agenda for Puget Sound: Now is the Time to Act. July 2012. http://www.psp.wa.gov/downloads/AA2012_July/July3ActionAgendaBook1.pdf.

¹²⁶ Puget Sound Vital Signs. <http://www.psp.wa.gov/vitalsigns/salmon.php>.

¹²⁷ Treaty Rights At Risk. July 2011. <http://nwifc.org/w/wp-content/uploads/downloads/2011/08/whitepaper628finalpdf.pdf>.

Caucus, facilitating coordination of the Puget Sound work among the larger group of federal agencies in the Puget Sound basin.

The waters in this basin have provided a significant source of seafood for tribal, as well as commercial and recreational, harvesters. In calendar year 2010, over 23 million pounds of salmon were harvested commercially by treaty tribal and non-treaty fishers.¹²⁸ Washington's aquaculture (farmed) shellfish harvest was over 24 million pounds with economic values of over \$79.5 million in 2012 making Washington's shellfish industry the most valuable in the nation. Adding recreational and tribal shellfish harvests increases the statewide shellfish harvest levels to over 30.6 million pounds, worth more than \$125 million. Shellfish farmers were responsible for more than 2,700 direct, indirect and induced jobs (non-tribal only) in 2012.¹²⁹ Importantly, aquaculture provides family wage jobs in economically challenged rural communities. Salmon fishing and shellfish harvesting are a source of food, providing recreational and commercial economic benefits. However, untreated stormwater pollution and agricultural runoff constantly threaten these valuable resources.

As of FY 2015, the EPA's Puget Sound Program has resulted in over 43,000 acres of habitat protected and/or restored (cumulative from 2006), and 3,277 acres of shellfish harvest bed upgraded (cumulative from 2006). The program also has advanced Puget Sound stormwater programs utilizing Low Impact Development techniques.

To achieve these positive ecosystem results, the Puget Sound Program has leveraged its appropriations to target three strategic areas:

1. Preventing pollution from urban stormwater runoff;
2. Protecting and restoring habitat; and
3. Keeping open shellfish areas safe for harvesting and upgrading additional shellfish harvest areas.

The EPA's Puget Sound Program leverages federal funds with significant additional funding from state partners and other non-governmental sources. From calendar year 2011 to 2015, over \$251 million of non-federal funding, cash and in-kind services were directed to Puget Sound restoration and protection priorities.¹³⁰ These contributions by non-federal sources highlight the importance and success of the partnership between federal, state, Tribal and nongovernmental stakeholders, working together to restore and preserve the Puget Sound.

FY 2017 Activities and Performance Plan:

In FY 2017, the Puget Sound Program will strengthen its coordination with other federal agencies to prioritize work to increase the function and resiliency of targeted riparian areas, especially for endangered salmon species. Building upon its FY 2015 and FY 2016 riparian initiative, the Puget Sound Program is identifying riparian priority areas to restore floodplain ecosystem functions that

¹²⁸ *Commercial Fisheries Harvest Pounds of all salmon caught in commercial harvest*. 2012. <http://www.psp.wa.gov/downloads/VS2013/commercial-harvest.pdf>.

¹²⁹ Economic Impact of West Coast Shellfish Aquaculture. March 2013. http://wsg.washington.edu/wordpress/wp-content/uploads/outreach/nwwws/E1/E1_Hudson.pdf.

¹³⁰ Puget Sound NEP leveraging data as reported in NEPORT for 2013.

both improves habitat and reduces flood pressure. In addition, the program will support initiatives that address stormwater pollution through retrofits and low impact development projects; and protect and upgrade shellfish growing beds through pollution identification and correction programs that control pathogen pollution from both septic and agricultural sources. The Puget Sound Program will use the Puget Sound Action Agenda, the long-term plan for Puget Sound basin protection and restoration, as the basis for identifying near-term actions and funding implementation strategies to achieve results for these three strategic initiatives.

In FY 2017, the Puget Sound Program will continue to implement the recommendations from a FY 2014 Program Evaluation conducted by the EPA's National Program Manager for the National Estuary Program. The program also will assist local jurisdictions and tribes to implement priority Action Agenda projects through sub-awards made to local implementers. In addition, the Puget Sound Program is building upon the strength of its grants management practices as noted in the EPA's Office of Inspector General report released in July 2014.¹³¹ The EPA took recommendations from the OIG report and worked to ensure that the Puget Sound Program cooperative agreements are implemented effectively, transparently, and in accordance with all federal assistance agreement requirements. The EPA will continue strengthening its sub-award monitoring practices in FY 2017.

In FY 2017, the Puget Sound Program will work more closely with its state and Tribal partners to target funds to the most effective areas of work. Consistent with past years, the EPA proposes to provide funding to tribes for both capacity building and for implementing priority tribal projects in the Puget Sound basin. In FY 2017, the EPA will take actions to ensure that riparian buffers receive priority for funding through the Puget Sound Program and through Washington's Section 319 grant funding to the extent practicable. The EPA also will work with NOAA and NRCS to jointly develop a science-based approach that identifies the highest priority areas in the region for salmon habitat restoration, with the goal of using this plan to target outreach efforts and federal funding. Funding for these activities will directly benefit Tribal interests in Puget Sound.

In FY 2017, the program will build upon the successful projects and lines of work under the habitat, stormwater and shellfish strategic initiatives and will utilize more focused implementation strategies to help achieve the ecosystem targets identified in the Action Agenda. More specifically, activities will include:

- Restoring and protecting floodplain riparian and marine shoreline areas identified as priorities in consultation with federal, Tribal, state, and local partners. The EPA's target is to restore and protect an additional 3,000 acres in FY 2017 for a total of 48,500 habitat acres cumulative since 2006.
- Protecting existing approved shellfish harvesting areas by ensuring surrounding water quality and supporting local efforts to identify and correct sources of pathogen pollution. At the end of 2015, the Washington State Department of Health (WADOH) reported 310,162 acres with Approved classifications, and 11,679 acres with Conditionally Approved classifications for commercial shellfish harvesting in Washington State marine waters. Approximately 59 percent of the state's approved harvest areas and 91 percent of the conditionally approved areas are in the Puget Sound basin.¹³²
- Upgrading restricted and closed shellfish beds to an approved status by implementing local

¹³¹ For more information see: www.epa.gov/oig/reports/2014/20140715-14-P-0317.pdf

¹³² Data provided by Washington State Department of Health; Shellfish Growing Area Program.

actions to address nonpoint source pollution - including septic and agricultural sources - that lead to improved water quality to ensure safe harvest. The Action Agenda's 2020 target for recovery of harvestable shellfish beds in Puget Sound is approximately 10,000 acres. The Puget Sound Program's FY 2017 goal is to protect human health by upgrading the harvest classifications of 6,350 cumulative acres of commercial shellfish beds.¹³³

- Reducing the impact of stormwater pollution on water quality and aquatic habitats. Stormwater pollution is a leading stressor on the overall health of most of the watersheds draining into Puget Sound. Stormwater pollution associated with increased impervious surface increasingly threatens the safety of shellfish harvest areas, alters the ecological functions that maintain aquatic habitats and reduces the overall water quality and health of the Puget Sound. The EPA Puget Sound Program is committed to working effectively with its state and Tribal partners to combat the negative impacts of stormwater pollution. In FY 2017, the Puget Sound Program will continue supporting ten county-level programs and will work with local entities to develop the necessary sustaining funding to keep these programs operational into future years and to control pollution from stormwater nonpoint sources.
- Strengthening climate resilience by it into the actions and projects funded with Puget Sound assistance agreements for habitat, shellfish and water quality. The program includes applicable regional and national climate adaptation and resiliency criteria in all applicable funding solicitations. Applications and workplans are evaluated for inclusion of climate related project design and factors to increase resiliency. Addressing ocean acidification, floodplain and riparian area protection and restoration, and improved stormwater management to protect water quality and hydrology for maintaining aquatic habitats are all examples of prioritized work in the Puget Sound Action Agenda that contribute directly to climate change resiliency.

The EPA and its Puget Sound partners have put mechanisms in place to both focus and quickly obligate federal funding and reduce unliquidated obligations. The EPA has taken steps to accelerate the expenditure of these funds and will continue to monitor unliquidated obligation status to ensure ongoing success in reducing unliquidated obligations.

Performance Targets:

Measure	(ps1) Improve water quality and enable the lifting of harvest restrictions in acres of shellfish bed growing areas impacted by degrading or declining water quality.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	1,800	4,953	3,878	7,758	4,000	4,700	4,750	6,350	Acres
Actual	4,453	1,525	2,489	3,203	3,249	3,277			

Measure	(ps3) Protect or restore acres or shoreline miles of aquatic habitats including: estuaries, floodplains, marine and freshwater shorelines, riparian areas, stream habitats, and associated wetlands.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	6,500	12,363	19,063	31,818	33,818	43,006	45,500	48,500	Acres
Actual	10,062	14,629	23,818	30,128	41,006	43,002			

¹³³ For a detailed map of Puget Sound Shellfish growing areas please see <http://www.doh.wa.gov/Portals/1/Documents/4400/ai-map.pdf>.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$12.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$2,022.0) This program change reflects an increase in support to state, Tribal and local implementation of priority projects, focused acceleration of riparian protection efforts, and coordination with other federal agencies for riparian protection in Puget Sound.

Statutory Authority:

Clean Water Act.

Geographic Program: Long Island Sound

Program Area: Geographic Programs

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$3,938.3	\$3,940.0	\$2,893.0	(\$1,047.0)
Total Budget Authority / Obligations	\$3,938.3	\$3,940.0	\$2,893.0	(\$1,047.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The EPA supports the protection and restoration of the Long Island Sound through its Long Island Sound Office, established under Section 119 of the Clean Water Act. The Sound provides feeding, breeding, nesting and nursery areas for a diversity of plant and animal life. The Long Island Sound watershed's natural capital provides between \$17 and \$37 billion in ecosystem goods and services every year. When the Long Island Sound watershed's ecological resources that generate this annual benefit are treated as an economic asset, the "natural capital asset value" is between \$690 billion and \$1.3 trillion.¹³⁴ The EPA assists the states in implementing the Sound's Comprehensive Conservation and Management Plan established under CWA Section 320. The EPA and the states of Connecticut and New York work in partnership with regional water pollution control agencies, scientific researchers, user groups, environmental organizations, industry, and other interested organizations and individuals to restore and protect the Sound and its critical ecosystems.

Updated in 2015, the CCMP¹³⁵ addresses ecosystem problems through ongoing programs and innovative approaches such as nitrogen trading and bubble permits. The CCMP also focuses on management of climate and human impacts on marine-dependent resources and their habitats, and ensuring the public is informed and involved in the restoration and protection of the Sound. Science-based decisions are central to addressing environmental conditions and are based on the 2014 published synthesis of scientific data and information on the Sound and its ecosystems: *Long Island Sound – Prospects for the Urban Sea*.¹³⁶ The new CCMP will guide partner actions through 2034.^{137 138}

¹³⁴ Trillion Dollar Asset, The Economic Value of the Long Island Sound Basin. August 2014. <http://www.earthconomics.org/FileLibrary/file/Reports/Earth%20Economics%20Long%20Island%20Sound%20Basin%202015%20Final%20Report.pdf>.

¹³⁵ The Comprehensive Conservation and Management Plan. <http://longislandsoundstudy.net/about/our-vision/>.

¹³⁶ *Long Island Sound: Prospects for the Urban Sea*. 2014. ISBN 978-1-4614-6125-8.

¹³⁷ Draft Comprehensive Conservation and Management Plan Update. <http://longislandsoundstudy.net/about/our-mission/updating-the-comprehensive-conservation-and-management-plan/>.

¹³⁸ Please see <http://www.longislandsoundstudy.net> for further information on the Long Island Sound Program.

FY 2017 Activities and Performance Plan:

The EPA will continue to oversee implementation of the Long Island Sound Study CCMP by coordinating the cleanup and restoration actions of the Long Island Sound Study Management Conference.

In FY 2017, the EPA will focus on the following:

- Reducing the area of the seasonally impaired waters through continued emphasis on lowering the Long Island Sound basin nitrogen loads to alleviate low oxygen levels (a condition called hypoxia). Specifically, the EPA Long Island Sound program will work with the states of New York and Connecticut to develop and implement innovative approaches to maintain and improve the nitrogen Total Maximum Daily Load first approved by the EPA in April 2001; the EPA will continue its efforts to include the upland states of Massachusetts, New Hampshire, and Vermont in this regulatory framework to address their nitrogen contributions from Sound tributaries;
- Coordinating priority watershed protection programs through the Long Island Sound Management Conference partners to ensure that efforts are directed toward priority river and stream reaches that affect Long Island Sound's water quality. The EPA will use the principles of its Healthy Watershed Initiative in working with partners to ensure that watershed protection and nonpoint source pollution controls will help reduce the effects of runoff pollution on rivers and streams discharging to the Sound. Restoration and protection efforts will increase streamside buffer zones as natural filters of pollutants and development of local ordinances to create and protect stream buffers;
- Supporting and funding state and local monitoring (year-round and seasonal) for water quality indicators such as biological indicators (e.g., chlorophyll *a*) and environmental indicators (e.g., dissolved oxygen levels, temperature, salinity, and water clarity). This monitoring will assist Management Conference partners in assessing environmental conditions that may contribute to impaired water quality and in developing strategies to address impairments;
- Supporting and funding the states of New York and Connecticut to coordinate the protection and restoration of critical coastal habitats to improve the productivity of tidal wetlands, inter-tidal zones, and other key habitats that have been adversely affected by unplanned development, overuse, land use-related pollution effects, and climate change, e.g., sea level rise, warming temperatures, changes in salinity and other ecological effects;
- Promoting state and local management of the 33 ecologically, scientifically, and recreationally significant Long Island Sound Stewardship Areas in New York and Connecticut to support compatible public access and uses of the Sound's key land resources;
- Supporting and funding the New York and Connecticut Sea Grant College Program partners in coordinating and supporting the Long Island Sound Citizens Advisory Committee in

developing an educated population that is aware of significant environmental problems and that understands the management approach to, and their role in, addressing problems;

- Supporting and funding the National Fish and Wildlife Foundation in planning, organizing and implementing a competitive grant program for local on-the-ground projects to restore and protect the Sound’s water quality, habitat and wildlife, and in educating and informing the public;
- Supporting and funding the State University of New York Research Foundation and the Connecticut Sea Grant College Program, to administer a program of focused scientific research into the causes and effects of pollution on the Sound’s living marine resources, ecosystems, water quality, and human uses to assist managers and public decision-makers in developing policies and strategies to address environmental, social, and human health impacts; and,
- Continuing to work with all federal, state and local Management Conference partners, private and public stakeholders, and tribes to assist them in implementing the updated CCMP for Long Island Sound.

Performance Targets:

Measure	(li5) Percent of goal achieved in reducing trade-equalized (TE) point source nitrogen discharges to Long Island Sound from the 1999 baseline of 59,146 TE lbs/day.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	52	72	74	76	85	91.5	95	100	TE Pounds/Day
Actual	70	69	83	88	94	Data Avail 9/2016			

Measure	(li8) Restore, protect or enhance acres of coastal habitat from the 2010 baseline of 2,975 acres.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			218	420	410	135	95.8	318	Acres
Actual			537	336	410	1,678			

Measure	(li9) Reopen miles of river and stream corridors to diadromous fish passage from the 2010 baseline of 17.7 river miles by removal of dams and barriers or by installation of bypass structures.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			28	75	1.5	30	76.95	46.4	Miles
Actual			72.3	56	21.6	0			

The states of New York and Connecticut are reducing nitrogen loading through their innovative and nationally-recognized pollution trading and bubble permit programs. In calendar year 2014, 106 sewage treatment plants in New York and Connecticut discharged 24,861 trade-equalized pounds per day of nitrogen to Long Island Sound, a significant decrease in loadings (see Figure 1), achieving 94 percent of its 15-year total nitrogen reduction target. This represents nearly 40 million fewer pounds of nitrogen per year from the circa 1990s baseline from entering the Sound from treatment plants.

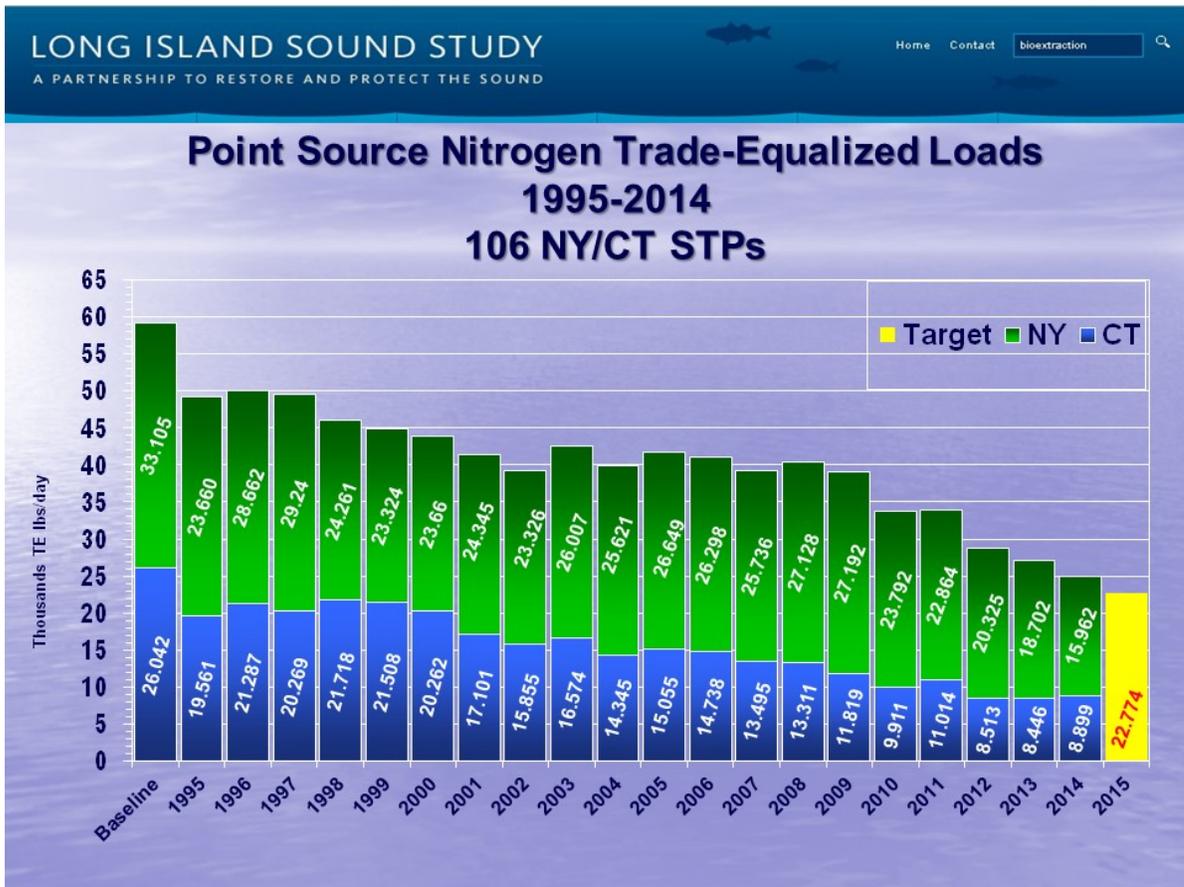


Figure 1. Point Source Nitrogen Loadings in Long Island Sound Study

In 2015, the maximum area of hypoxia in the Sound was estimated to be 38 square miles, the third lowest recorded in 29 years of monitoring. The 5-year running average area of hypoxia was measured at 124.6 square miles. The smaller area of hypoxia estimated in 2015 is indicative of a possible link between the reduction of anthropogenic nitrogen from treatment plants and a corresponding improvement in dissolved oxygen in the Sound. However, environmental response is not necessarily linear and the sedimentary contribution of legacy nitrogen may affect the ecosystem's response.

In FY 2015, with financial assistance from the EPA, the states restored or protected 1,678 acres of critical coastal habitat. The Long Island Sound Study partners did not complete any projects to reopen rivers to fish passage in 2015, although work has continued on several ongoing projects. The EPA will work with the states, under the Long Island Sound Futures Fund Grant Program, to continue to assist in restoring and protecting critical habitat and reopening rivers to fish passage.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$1,047.0) This program change reflects a reduction in support for implementation of the Long Island Sound Comprehensive Conservation and Management Plan, including addressing high nutrient loadings and protection and restoration of coastal habitats.

Statutory Authority:

Long Island Sound Restoration Act.

Geographic Program: Gulf of Mexico

Program Area: Geographic Programs

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$2,799.2	\$4,482.0	\$3,983.0	(\$499.0)
Total Budget Authority / Obligations	\$2,799.2	\$4,482.0	\$3,983.0	(\$499.0)
Total Workyears	11.4	14.3	14.3	0.0

Program Project Description:

The Gulf of Mexico regional water body is the ninth largest body of water in the world. The Mississippi River is the main river system which drains to the Gulf. The Mississippi River watershed captures drainage from 41 percent of the land area of the contiguous United States (parts of 31 states). This equates to approximately 1,467,182 square miles. Through coordinated public collaboration, the EPA works in partnership to restore the Gulf, and ultimately improve the health of the coastal area and approximately 20 million Americans.

The mission of the EPA's Gulf of Mexico Program (GMP) is to facilitate collaborative actions which protect, maintain, and restore the health and productivity of the Gulf of Mexico in ways consistent with the economic well-being of the region. The GMP competitively funds projects and works through interagency agreements and strategic partnerships to accomplish its mission. The GMP operates through a work plan which is directly linked to the EPA's budget and strategic plan. Specifically, all GMP projects and partnership work is linked to one or more performance measures: improve and/or restore water quality, protect, enhance or restore coastal and upland habitats, promote and support environmental education and outreach to inhabitants of the Gulf watershed and support the implementation of programs, projects and tools which strengthen community resilience. The GMP provides significant leadership and coordination among state and local governments, the private sector, tribes, scientists, and citizens to align efforts that address the challenges facing the communities and ecosystems of the Gulf Coast.

The GMP is committed to voluntary, non-regulatory actions and solutions which are based on scientific data and technical information as informed by work efforts conducted with partners and the public.

FY 2017 Activities and Performance Plan:

In FY 2017, the GMP performance plan continues to be directly linked to the budget and strategic plan performance measures: water quality, habitat enhancement, environmental education and community resilience. The GMP competitively funds projects directly linked to the performance measures, and the work outputs and outcomes are closely coordinated and complementary with ongoing Gulf Coast Ecosystem Restoration Council RESTORE and Natural Resources Damages

Assessment activities related to the Deepwater Horizon Oil Spill. The projects, programs and partnerships are all taking a regional ecosystem-based approach for the Gulf of Mexico. All technical staff directly support these efforts by providing scientific and technical expertise. The GMP continues to seek broad participation and input from the diverse stakeholders who live, work and recreate in the Gulf Coast region. There is a strong sense of partnership due to the coordination with the working waterfront communities, academia, local and state agencies, non-profit organizations and many other partners who work together to improve decision-making based on the best available science.

The following are performance activities which are directly supported by the GMP:

Improve Water Quality

The Clean Water Act provides authority and resources that are critical to protecting and improving the water quality in the Gulf of Mexico and all waters of the United States. The GMP implements projects and works in close partnerships to improve water and habitat quality throughout the Gulf of Mexico watershed. The GMP funds projects which improve water quality on a watershed basis. Specifically, a water quality improvement is counted when there is a five percent or more positive change in at least one water parameter (for example, dissolved oxygen, temperature, pH, turbidity, total suspended solids, salinity, freshwater inflow, nutrients, invasive species, pathogens, etc.).

The GMP maintains important cross-agency contacts with the EPA Regional Offices and Headquarter Offices by serving on workgroups and as technical contacts in the Gulf region. Working across the EPA on common priority issues assures the continued effective implementation of core water programs, maximization of efficiency by coordinating water quality data collection activities, and reduction in project overlap. The GMP will continue to support the Hypoxia Task Force by serving on the coordinating committee and providing direct technical support with respect to nutrient pollution reduction. The GMP will continue robust partnerships with federal agencies, non-profit organizations, state agencies, tribes and international partners to leverage resources throughout the Gulf of Mexico region.

Enhance, Protect or Restore Coastal Habitats

The wise management of critical ecosystems is widely recognized as a fundamental environmental concern throughout the Gulf Coast region. The priority issues include, but are not limited to, sediment management, marsh/habitat loss due to subsidence, the continued reduction of freshwater in-flow and climate change. For decades, the Gulf Coast has endured extensive natural and man-made damage to key habitats such as coastal wetlands, estuaries, barrier islands, upland habitats, seagrass vegetation, oyster reefs, coral reefs and offshore habitats. In FY 2017, the GMP will continue working in close partnership to enhance coastal ecosystems, improve sediment movement/management, restore acreage where feasible and cost-effective, and reverse the effects of long term habitat degradation.

Environmental Education and Outreach

Protecting America’s waters, restoring habits, and enhancing community resilience are critical to a healthy and thriving environment. To accomplish these goals, actions must be taken to educate, inform, and possibly change behaviors of the public. In FY 2017, the GMP will continue to promote the use of the best available science and healthy environmental practices by developing programs, establishing partnerships, and funding, competitively, projects that increase environmental literacy. The GMP will enhance experiential learning opportunities for Gulf residents and visitors alike. The GMP will ensure that practitioners of environmental education initiatives are validated by sound science and there is resonance among Gulf residents as to their connectedness to preservation of the Gulf of Mexico.

To ensure that environmental education and outreach efforts extend to vulnerable populations, the program will work with various sectors of government, community leaders, and academia on projects that improve conditions in communities plagued by environmental injustices. The intent is to promote environmental equity and sustainability of underserved communities. Education and outreach are vital components and essential to accomplishing the EPA’s mission to protect human health and the environment, to serve underrepresented populations, and to meet the GMP specific goals of promoting healthy and resilient coastal communities. All Gulf residents deserve the best information as it directly relates to their health, the economic vitality of their communities, and their overall quality of life.

The GMP requires meaningful pedagogical outreach activities in every funded project. Specifically, for every competitively funded cooperative agreement, the GMP requires a well-defined outreach plan as an integral project component; complete with specifically defined outputs and outcomes. All GMP projects and work conducted in partnership will continue to target sustainable educational opportunities on Gulf-wide priorities (water quality, habitat conservation and community resilience).

Strengthen Community Resilience

Coastal and inland communities continuously face various natural and man-made challenges of living along the Gulf of Mexico coastline. These challenges include storm risk, land and habitat loss, depletion of natural resources, compromised water quality and economic fluctuations. In FY 2017, the GMP will continue the robust partnerships and extensive community interactions which have and will continue to strengthen coastal and near-shore community preparedness. Through measureable actions, activities, partnerships and projects, communities Gulf-wide will be more resilient and thus better prepared for natural disasters or other situational emergencies. Communities adopting resilient actions will be measured and reported.

Performance Targets:

Measure	(xg2) Restore, enhance, or protect a cumulative number of acres of important coastal and marine habitats.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	27,500	30,000	30,600	30,600	30,600	30,800	30,800	30,800	Acres
Actual	29,552	30,052	30,248	30,306	30,319	30,574			

Measure	(xg3) Improve and/or restore water and habitat quality to meet water quality standards in watersheds throughout the five Gulf States and the Mississippi River Basin.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target							2	4	Watersheds (12 digit HUC)
Actual									

For FY 2017, the Gulf Program will continue to support specific actions and solutions designed to improve the environmental and economic health of the Gulf of Mexico region through cooperative efforts and partnerships.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$265.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$764.0) This program change reflects a reduction in support to the Gulf Program partner agencies and organizations through our Grant, Cooperative Agreement, and Interagency Agreement processes in 2017.

Statutory Authority:

Clean Water Act.

Geographic Program: South Florida

Program Area: Geographic Programs

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$1,707.8</i>	<i>\$1,704.0</i>	<i>\$1,339.0</i>	<i>(\$365.0)</i>
Total Budget Authority / Obligations	\$1,707.8	\$1,704.0	\$1,339.0	(\$365.0)
Total Workyears	1.2	1.4	1.4	0.0

Program Project Description:

The backbone of the South Florida economy is tourism and related activities such as fishing, scuba diving, swimming, sailing, lobster harvesting and other outdoor activities, all of which depend on clean and clear oceans, lakes, and rivers. The tourism industry – many centered in South Florida – has an economic impact of \$67 billion on Florida’s economy.¹³⁹ Agriculture – vegetables, fruits, nurseries, sugar cane, livestock and aquaculture – is a multi-billion dollar industry for South Florida. The federal government is committed to protecting and restoring the Everglades – an extraordinary ecosystem and international treasure. South Florida has much to lose if the estuaries, lakes, rivers, and near shore waters are polluted.

The EPA’s South Florida program coordinates restoration activities in South Florida, including the Florida Keys where water quality and habitat are directly affected by land-based sources of pollution and ongoing restoration efforts in the Everglades. The EPA implements, coordinates, and facilitates activities, including the Clean Water Act Section 404 Wetlands Program, the Everglades Restoration Strategies Program, the Everglades Ecosystem Assessment Program, the Florida Keys National Marine Sanctuary Water Quality Protection Program , the Florida Keys National Marine Sanctuary Water Quality Monitoring Program, the Coral Reef Environmental Monitoring Program, the Benthic Habitat Monitoring Program, the Southeast Florida Coral Reef Initiative, as directed by the U.S. Coral Reef Task Force, the Brownfields Program, and other programs.¹⁴⁰

FY 2017 Activities and Performance Plan:

The EPA South Florida program targets efforts to protect and restore various communities and ecosystems impacted by environmental problems. The EPA’s request includes appropriate workforce support level. In FY 2017, the EPA will focus on the following activities listed below.

- Continue to coordinate and facilitate the implementation of the long-term status and trends monitoring projects (water quality, coral reef, and seagrass) and the web-enabled data

¹³⁹ <http://www.stateofflorida.com/facts.aspx>.

¹⁴⁰ <http://www.epa.gov/aboutepa/about-epa-region-4-southeast>.

management program.¹⁴¹ The monitoring programs have generated an impressive amount of data on the condition of the Florida Keys National Marine Sanctuary's water quality, seagrass and coral/benthic habitat communities. Data generated from these programs have documented periodic oceanographic events such as algal blooms, seagrass die-offs, and coral diseases, and provided the foundational data for the development of nutrient numeric criteria. Information captured from these long-term data sets informs resource managers' understanding of the living marine resources within the Sanctuary system. During FY 2016, water quality and seagrass stations have been moved nearshore and within canal systems to document changes in water quality/seagrass from implementation of centralized sewer systems and canal restoration projects.

- Support the Everglades Ecosystem Assessment Program. The EPA began this assessment program in 1995 to provide a baseline of ecological health that could serve as a benchmark for assessing future conditions and restoration progress. The 2014 sampling of 119 locations in the Everglades represented the tenth sampling event over the last 20 years. EMAP uses a probability-based sampling design to provide quantitative statements about ecosystem health, document current and changing water quality and ecological conditions, and assess restoration progress. The final assessment report for the 2014 sampling event will be completed in FY 2017. This report will address key questions related to water management and soil loss, track the effectiveness of restoration efforts such as the Restoration Strategies Program to control phosphorus, efforts to restore Everglades' habitat, and efforts to control mercury.
- Continue the EPA's National Environmental Policy Act and water quality coordination with the Jacksonville U.S. Army Corps of Engineers District and South Florida Water Management District with ongoing activities associated with Comprehensive Everglades Restoration Project¹⁴² implementation. CERP is the largest ecosystem restoration effort in the world and is currently projected to cost \$14 billion over several decades.
- Continue to implement the Florida Keys Wastewater and Stormwater Master Plan to provide Advanced Wastewater Treatment or Best Available Technology services to all homes and businesses in the Florida Keys. By the end of FY 2017, the goal is to remove from service all non-functioning septic tanks, cesspits, and non-compliant wastewater facilities.
- The restoration of residential canals will continue to be a priority in FY 2017. Of the 502 canals evaluated, 131 exhibited poor water quality in a 2012 study. Local governments are implementing the Monroe County Canal Management Master Plan and have provided \$7.1 million to implement weed barriers, organic removal, culvert installation, backfilling, and pumping technologies at eight canal demonstration pilot sites to improve water quality and habitat.¹⁴³ Monroe County is seeking alternative technologies to restore canals and will be evaluating a bench-scale study funded by the EPA South Florida program to determine if

¹⁴¹ Florida Keys National Marine Sanctuary Water Quality Protection Program.
http://ocean.floridamarine.org/fknms_wqpp/pages/wqpp.html.

¹⁴² For more information: <http://www.evergladesrestoration.gov/>.

¹⁴³ For more information: <http://www.monroecounty-fl.gov/index.aspx?NID=598>.

the sediment washing technology can treat organic material recovered from the bottom of impaired canals for beneficial reuse as a soil amendment. To evaluate success, water quality and seagrass monitoring will be conducted to compare pre-implementation data collected in FY 2014 and FY 2015 to post-implementation data gathered in FY 2017.

- The EPA South Florida program provided funding for water quality/benthic habitat monitoring to document water quality changes to residential canals from remediation efforts in FY 2015. Pre-implementation data collected from impaired canals in FY 2014 and FY 2015 will be compared to post-implementation data gathered in FY 2017.
- Provide financial and/or technical/managerial support for priority environmental projects and programs in South Florida, including:
 - Everglades Ecosystem Assessment Program;
 - Florida Keys National Marine Sanctuary Water Quality Monitoring Program;¹⁴⁴
 - Benthic Habitat (seagrass) Monitoring Program;
 - Florida Keys National Marine Sanctuary Coral Reef Evaluation and Monitoring Program;¹⁴⁵ and
 - Water Quality Protection Strategy for the South Florida Ecosystem.¹⁴⁶
- Support implementation of CWA Section 404, including wetlands conservation, permitting, dredge and fill and mitigation banking strategies with U.S. Army Corps of Engineers.
- Continue collaborative efforts through interagency workgroups including: South Florida Ecosystem Restoration Task Force; Florida Bay Program Management Committee; and Florida Keys National Marine Sanctuary Water Quality Protection Program Steering Committee.
- Mote Marine Laboratory will complete a special study project to assess the effects of mosquito control pesticides on non-targeted organisms (corals and spiny lobster) in the Florida Keys National Marine Sanctuary. Mosquito control is a public health concern in the Florida Keys since 5 percent of the population of Key West have shown exposure to the dengue virus transmitted by mosquitos.
- The EPA will provide staff and funding support to the Florida Bay Sponge Community Restoration Project. In recent decades, harmful algal blooms have decimated valuable sponge communities that serve as nurseries for many species of fish and invertebrate species. A 2015 study by the EPA demonstrated the viability of sponge restoration. This partnership with the Florida Freshwater & Wildlife Conservation Commission, Old Dominion University, Florida Sea Grant, The Nature Conservancy, The Bonefish Tarpon Trust and Florida Sea Grant Program will evaluate if sponge propagation is viable from nursery donor sites and whether it is cost-effective to implement on a large-scale. To test this, a minimum of 15,000 sponges will be planted in Florida Bay.

¹⁴⁴ For more information: http://ocean.floridamarine.org/fknms_wqpp/pages/cremp.html.

¹⁴⁵ For more information: http://ocean.floridamarine.org/fknms_wqpp/pages/cremp.html.

¹⁴⁶ <http://www.sfwmd.gov/portal/page/portal/xweb%20protecting%20and%20restoring/restoration%20strategies>.

- Work with Monroe County Extension and University of Florida to continue development of the Florida Keys Water Watch Program, a community-based program to promote awareness of the importance of water quality and the connection between land-use and aquatic health.
- Continue the tracking of Everglades Restoration Strategies to address phosphorus pollution and National Pollutant Discharge Elimination System permits within the Everglades, including discharge limits for phosphorus that are consistent with state and federal law and federal court consent decree requirements.

Performance Targets:

Measure	(sf3) At least seventy-five percent of the monitored stations in the near shore and coastal waters of the Florida Keys National Marine Sanctuary will maintain Chlorophyll a(CHLA) levels at less than or equal to 0.35 ug l-1 and light clarity (Kd) levels at less than or equal to 0.20 m-1.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target		75	75	75	75	75	75	75	
Actual		85.4	CHLA: 70.9; KD: 72.5	>75 (CHLA: 84.5; KD: 80.4)	CHLA = 86.0; Kd = 87.2	CHLA = 82.0; Kd = 77.3			Stations

Measure	(sf4) At least seventy-five percent of the monitored stations in the near shore and coastal waters of the Florida Keys National Marine Sanctuary will maintain dissolved inorganic nitrogen (DIN) levels at less than or equal to 0.75 uM and total phosphorus (TP) levels at less than or equal to 0.25 uM.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target		75	75	75	75	75	75	75	
Actual		73.6	DIN: 81; TP: 89.5	<75 (DIN: 60.0; TP: 82.3)	DIN=72.6 ; TP=87.6	DIN=61.7 ; TP=78.3			Stations

Measure	(sf6) The number of Everglades Stormwater Treatment Areas (STAs) with the annual total phosphorus (TP) outflow less than or the same as the five-year annual average TP outflow, working towards the long-term goal of meeting the 10 parts per billion annual geometric mean.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target						3	3	3	Stormwater Treatment Areas
Actual						4			

The South Florida program has made significant strides in making progress toward the 2016 goal of eliminating all traditional septic tanks, cesspits and non-compliant wastewater facilities within the Florida Keys. In the late 1990s, the EPA identified improperly treated wastewater as the major source of nutrient and bacteria to the near shore waters of the Keys. As a result, the Florida Legislature mandated that Monroe County address onsite systems. To date, approximately \$750 million has been invested in wastewater upgrades and 58,532 of the 73,135 of the total equivalent dwelling units (way of assigning wastewater fees/rates and an implementation measure) are

Advanced Wastewater Treatment or Best Available Technology compliant. In 2015, the EPA instituted a revised measure of progress for tracking the status of total phosphorus in outflows from Everglades Stormwater Treatment Areas for which results will continue to be tracked in FY 2016 and FY 2017. The health and functionality of sea grass beds in the Florida Keys National Marine Sanctuary were maintained above 2006 baseline levels in 2015. Water quality of the near shore and coastal waters of the FKNMS showed some improvement in 2015, with positive results for chlorophyll a, light clarity, and total phosphorus. Elevated dissolved inorganic nitrogen levels due to polluted runoff into waterways, however, continue to be a subject of concern.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$42.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$407.0) This program change reduces support for water quality, coral and seagrass status and trend monitoring programs and research studies used for directing implementation activities in the Florida Keys National Marine Sanctuary. This reduction also reduces support for the Everglades and Assessment Monitoring Program (EMAP), a long-term monitoring program for documenting status and trends, variability, and detecting response to management actions.

Statutory Authority:

Florida Keys National Marine Sanctuary and Protection Act of 1990; National Marine Sanctuaries Program Amendments Act of 1992; Clean Water Act; Water Resources Development Act of 1996; Water Resources Development Act of 2000.

Geographic Program: Lake Champlain

Program Area: Geographic Programs

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$4,396.0</i>	<i>\$4,399.0</i>	<i>\$1,399.0</i>	<i>(\$3,000.0)</i>
Total Budget Authority / Obligations	\$4,396.0	\$4,399.0	\$1,399.0	(\$3,000.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

Lake Champlain was designated as a resource of national significance by the Lake Champlain Special Designation Act (Public Law 101-596) that was signed into law on November 5, 1990 (amended in 2002). A management plan for the watershed, “Opportunities for Action,” (revised in 2010) was developed to achieve the goal of the Act– to bring together people with diverse interests in the lake to create a comprehensive pollution prevention, control, and restoration plan for protecting the future of the Lake Champlain Basin.

The EPA’s efforts to protect Lake Champlain support the successful interstate, interagency, and international partnerships undertaking the implementation of the Plan. “Opportunities for Action” addresses various threats to Lake Champlain’s water quality, including phosphorus loadings, invasive species, and toxic substances.¹⁴⁷ The goals of Opportunities for Action include, but are not limited to:

- Reduce phosphorus inputs to Lake Champlain to promote a healthy and diverse ecosystem and provide for sustainable human use and enjoyment of the Lake;
- Reduce contaminants that pose a risk to public health and the Lake Champlain ecosystem;
- Maintain resilient and diverse communities of fish, wildlife, and plants in the Lake Champlain Basin;
- Prevent the introduction, limit the spread, and control the impact of non-native aquatic invasive species to preserve the integrity of the Lake Champlain ecosystem;
- Identify potential changes in climate and develop appropriate adaptation strategies to minimize adverse impacts on Lake Champlain’s ecosystem and natural, heritage and socioeconomic resources; and
- Promote healthy and diverse economic activity and sustainable development principles while improving water quality on which the regional economy is based and conserving the natural and cultural heritage resources.

¹⁴⁷ For additional information see: <http://www.epa.gov/NE/eco/lakechamplain/index.html> , <http://www.lcbp.org>, <http://www.cfda.gov>.

A Healthy Lake Contributes to a Healthy Economy in Vermont and New York

The Lake Champlain Basin is home to more than 600,000 people and draws millions of visitors. The Lake Champlain Basin Program recognizes the importance of healthy natural resources to the Basin's people, its industries, and the economy as a whole. In particular, recreational activities on Lake Champlain depend upon a clean, healthy ecosystem and are an integral factor for the region's economy. For example, total tourist expenditures within the Lake Champlain Basin were estimated at \$3.8 billion in 1998-1999, with roughly 71 percent in the Vermont portion of the Basin (\$2.7 billion) and 29 percent in the New York portion (\$1.1 billion). Fishing-related expenditures were estimated at \$204 million in 1997 for the Basin. In 1997, the owners of 98 fishing-related businesses near Lake Champlain estimated that \$5.6 million of their total income was from anglers using Lake Champlain.¹⁴⁸ Bird and other wildlife viewing activities generated more than \$122 million in 2006.¹⁴⁹

FY 2017 Activities and Performance Plan:

Federal, state, provincial, and local partners will continue addressing high levels of phosphorus by implementing priority actions identified in "Opportunities for Action" to reduce phosphorus loads from point, urban, and agricultural nonpoint sources.¹⁵⁰ Additionally, the Vermont Phosphorus Total Maximum Daily Load (TMDL) for Lake Champlain will be completed by the EPA in early 2016. The Lake Champlain Basin Program plans to update its management plan, "Opportunities for Action" in 2016. Figure 1 shows how average total phosphorus concentrations have changed from 1990 to 2014¹⁵¹. The Vermont Phosphorus TMDL and associated implementation plan developed by the State of Vermont will set the framework for FY 2017 activities that need to be implemented to reduce nonpoint sources of phosphorus and meet the load allocations specified in the TMDL. Similarly, the waste load allocations in the TMDL will be instrumental in guiding FY 2017 activities for point sources. The EPA remains committed to supporting implementation of the Lake Champlain TMDL, and will work with federal and state partners to leverage the federal investment.

Although Vermont continues to make progress in reducing phosphorus inputs to Lake Champlain, more work needs to be done to meet Water Quality Standards. Specifically, Vermont must reduce its current phosphorus load by 213 metric tons per year.¹⁵² This will require continued efforts in FY 2017 and beyond.

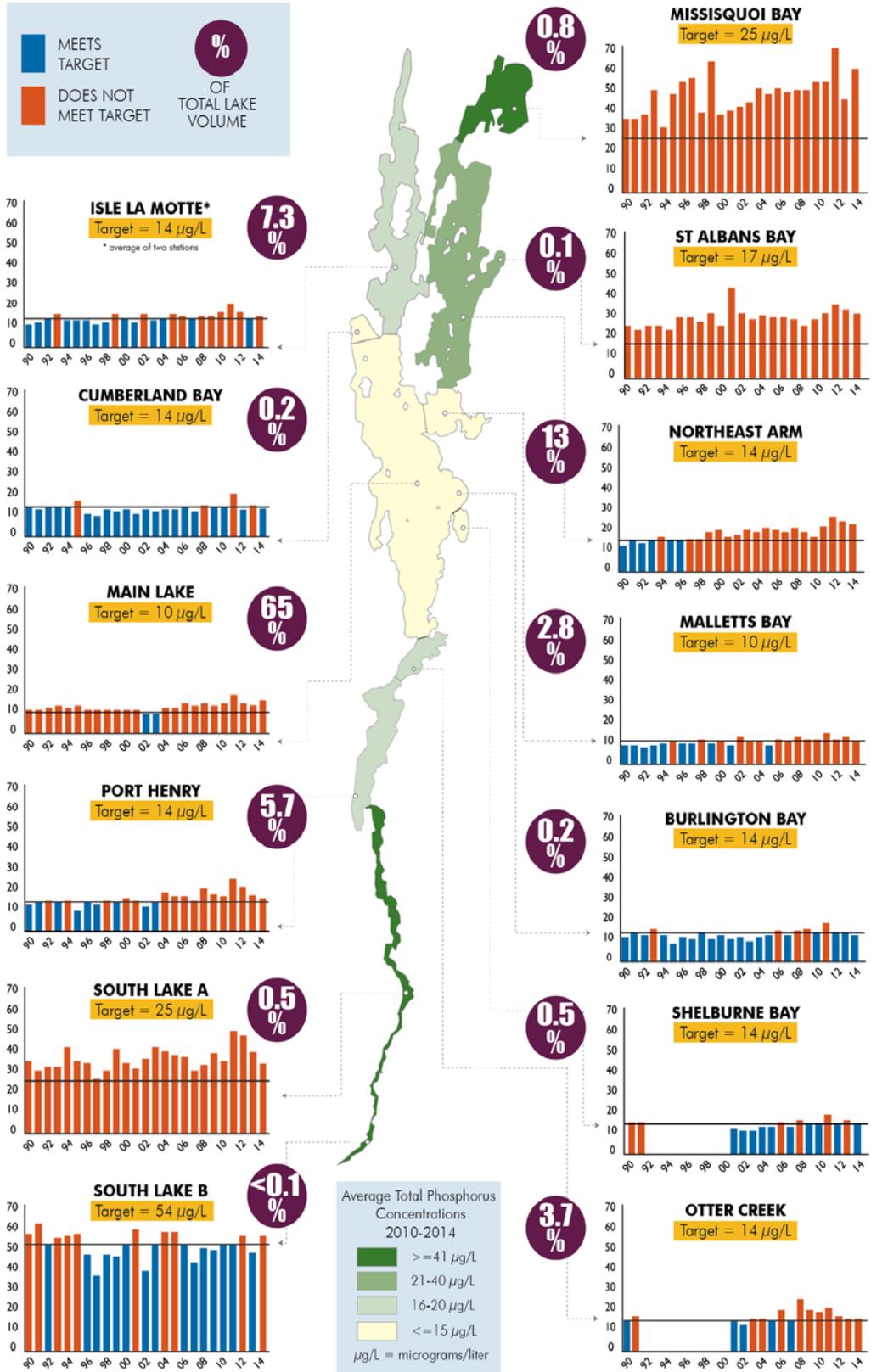
¹⁴⁸ *People and Economy Lake Champlain Atlas, Economics of the Basin* - http://atlas.lcbp.org/HTML/so_econ.htm.

¹⁴⁹ Lake Champlain Basin Program, Opportunities for Action Database. <http://plan.lcbp.org/ofa-database/chapters/introduction>.

¹⁵⁰ The Phosphorus Total Maximum Daily Load for the Vermont portion of Lake Champlain is currently being revised. Additional information will be available in FY 2016.

¹⁵¹ Lake Champlain Basin Program, 2015 State of the Lake and Ecosystem Indicators Report.

¹⁵² USEPA Region 1, New England. August 14, 2015. Proposed Phosphorus TMDLs for Vermont Segments of Lake Champlain.



DATA SOURCE: Long Term Monitoring Program (LCBP, VTANR, NYSDEC)

Figure 1: Average Total Phosphorus Concentration (Courtesy of LCBP)

Updating “Opportunities for Action”

The Lake Champlain Special Designation Act calls for the review and revision, as necessary, of the program management plan at least once every five years. With a new Vermont TMDL anticipated in early 2016, the Steering Committee determined that an update is needed to identify new activities necessary to restore and maintain the Lake. The Committee has begun drafting a new “Opportunities for Action” plan and expects to complete it in early FY 2017.

Reducing Point Source Phosphorus Inputs to Lake Champlain

Despite a decline in phosphorus loads from wastewater treatment facilities’ discharge since 1991, priority actions to reduce phosphorus loads from point sources must continue. These actions include, but are not limited to, ensuring that facilities’ permits remain consistent with the Clean Water Act and necessary upgrades to treatment facilities are completed.

Reducing Nonpoint Source Phosphorus Inputs to Lake Champlain

Substantial reductions in nonpoint phosphorus runoff are required in both agricultural and developed lands in order to meet targets for a clean Lake Champlain. Wastewater treatment plant sources in Vermont, New York, and Quebec accounted for 7 percent of the total phosphorus load to the Lake during the 2001-2010 modeling period, with the remainder coming from agriculture, developed land, forests and unstable stream corridors.¹⁵³

Figure 2 illustrates the significant challenges faced with nonpoint source contributions of phosphorus from developed and agricultural lands, and increasing flows, especially those occurring during extreme storm events. Priority actions to be implemented in FY 2017 to address nonpoint source contributions of phosphorus from developed lands include, but are not limited to: 1) assessing the effectiveness of stormwater ordinances; 2) ensuring that phosphorus loads associated with new development are minimized through practices such as Low Impact Development, retrofit strategies, and innovative stormwater controls; and 3) updating stormwater permit requirements. Priority actions addressing agricultural nonpoint source contributions of phosphorus include continued research to determine the efficiency of agricultural Best Management Practices and evaluation of farm practices to identify locations where practices are needed. Results from this work will help direct resources to the most effective practices that reduce runoff and associated nutrient and sediment losses. Additionally, through small grants, phosphorus loads from

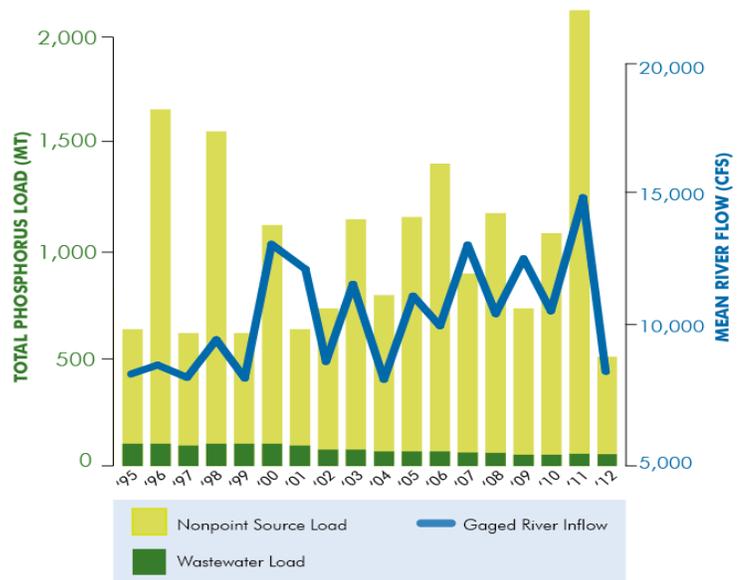


Figure 1: Nonpoint & Point Source Phosphorus Loads vs Flow (Courtesy of LCBP)

¹⁵³ USEPA Region 1, New England. August 14, 2015. Proposed Phosphorus TMDLs for Vermont Segments of Lake Champlain.

agricultural nonpoint sources can continue to be reduced through the implementation of Best Management Practices and Nutrient Management Plans.

Tracking Implementation and Adaptive Management Framework

In FY 2017, federal, state, and provincial partners will implement an adaptive management framework to evaluate the results of management efforts in the Lake Champlain Basin based on water quality and other ecosystem indicators. This framework will evaluate phosphorus TMDL allocations through quantitative methods. The adaptive management plan will include current and future TMDL implementation scenarios and identify cost-effective alternatives to attain TMDL allocations.

Invasive Species Prevention

Aquatic invasive species are non-native species that harm the environment, economy, or human health, and include aquatic plants, animals, and pathogens. A continued priority will be to prevent the introduction, limit the spread, and control the impact of aquatic invasive species. Work with partners will continue in FY 2017 to understand the impact of the spread of the Spiny Water Flea and to monitor water chestnut and reduce its density and distribution.

Toxic Cyanobacteria

Ongoing work will continue to develop new ways to understand the high seasonal concentrations of toxic cyanobacteria, report on its potential health impacts, and provide necessary information to the health departments of New York and Vermont to close beaches, protect drinking water intakes, or take other actions. Public beaches on Lake Champlain closed more than 25 times between 2012-2014 as a result of harmful algal blooms.

The Lake Champlain Program also will:

- Continue the Long-Term Water Quality and Biological Monitoring Program and use its data to protect public health;
- Develop new approaches for urban and agricultural stormwater control with state partners; and
- Implement recommendations from climate change studies to reduce impacts on water quality.

Performance Targets:

Work under this program supports the Protect and Restore Watersheds and Aquatic Ecosystems objective. Currently there are no performance targets specific to this program. However, the goals and tasks in the “Opportunities for Action”¹⁵⁴ plan provide a framework for the Lake Champlain Basin Program’s performance targets. Particular targets include reducing phosphorus levels, toxic contaminants and pathogens, maintaining and restoring healthy wildlife, fish and plant communities, and preventing the introduction and spread of aquatic invasive species.

¹⁵⁴ See <http://plan.lcbp.org/>.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$3,000.0) This program change reflects a reduction in resources for implementation actions that support the Lake Champlain Basin Plan, “Opportunities for Action,” including cyanobacteria monitoring, invasive species control, and nutrient reduction actions achieved through local implementation projects, research of innovative nutrient control technologies, and outreach and education activities.

Statutory Authority:

1909 Boundary Waters Treaty; 1990 Great Lakes Critical Programs Act; 2002 Great Lakes and Lake Champlain Act; Clean Water Act; North American Wetlands Conservation Act; National Heritage Areas Act of 2006; Water Resources Development Act of 2000 and 2007.

Geographic Program: Other

Program Area: Geographic Programs

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Promote Sustainable and Livable Communities

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$7,295.2	\$7,393.0	\$6,913.0	(\$480.0)
Total Budget Authority / Obligations	\$7,295.2	\$7,393.0	\$6,913.0	(\$480.0)
Total Workyears	4.7	4.9	4.9	0.0

Program Project Description:

Under this program, the agency develops and implements approaches to mitigate pollution for specific and targeted geographic areas.

Northwest Forest Program

The Northwest Forest Program supports interagency and intergovernmental efforts that coordinate and leverage resources for water quality and drinking water efforts in seven¹⁵⁵ western states. The program pursues collaborative efforts that conserve and restore water quality on forest and range lands as alternatives to traditional regulatory and enforcement approaches. It provides technical and facilitation support for local and community-based watershed restoration and drinking water conservation efforts.

The Northwest Forest Program addresses water quality impairments in forested watersheds and works to improve the quality of surface water so that beneficial uses and drinking water/source water protection goals are met. In the State of Washington, the EPA is continuing its work with the Forest Service to finalize and implement a TMDL implementation strategy for all temperature-impaired waters in the Olympic, Mount Baker-Snoqualmie, and Gifford Pinchot National Forests. In Oregon, the EPA is working with the Oregon Department of Forestry, the Oregon Department of Environmental Quality and others to develop management measures that will address forestry-related water quality impairments and support the state's Coastal Non-Point Pollution Control Program. In Idaho, the EPA is working with the Forest Service to develop a robust, GIS-based tool for identifying and prioritizing failure points within watersheds that are contributing sediment to streams. This tool will lend critical support to sediment TMDL implementation efforts and lead to more efficient and effective on-the-ground restoration work. Collectively, these efforts will result in long term benefits to water quality and fisheries. Funding for the Northwest Forest Program also supports the management of key source water areas. This is critical because in Oregon and

¹⁵⁵ California, Idaho, Montana, Nevada, Oregon, Utah, and Washington.

Washington, 40 to 90 percent of the land areas of individual national forests west of the Cascade Range crest are in municipal watersheds.

In addition, the program supports monitoring of watershed conditions across 72 million acres of forest and rangelands in the Northwest. The Northwest Forest Program funding allows the EPA to provide critical support to the Aquatic Riparian Effectiveness Monitoring Program and the Pacfish/Infish Biological Opinion Monitoring Program. These are the only regional scale watershed monitoring programs in the Pacific Northwest, which play a key role in determining how riparian areas on 72 million acres of federal land should be managed. These areas are critical for aquatic/riparian habitat, ecosystem function (connectivity) and water quality.

Funding for the Northwest Forest Program helps the EPA respond to Tribal trust and treaty responsibilities. The EPA plays a key role in the protection and restoration of watersheds important to tribes. The EPA has Tribal trust responsibilities in the Northwest related to tribes reliant on salmon and shellfish.

Lake Pontchartrain Basin Restoration Program

The Pontchartrain basin, headwaters of Lake Pontchartrain, is known for its slow-flowing rivers and bayous, tranquil swamps, and lush hardwood forests, and provides essential habitat for countless species of fish, birds, mammals, reptiles, and plants. The famous wetlands and marshes surrounding the basin's waters provide a beautiful setting for wildlife and are the heart of the region's commercial and recreational fisheries. The Pontchartrain basin also is the center of southeastern Louisiana's unique cultural heritage. With over 2 million¹⁵⁶ residents, including rural farming communities, metropolitan New Orleans, and the fishing, shrimping, crabbing, and oyster industries, the area is brimming with a diversity of people bound by a common interest: the desire for clean and healthy waters in the Pontchartrain basin. The basin comprises over 10,000 square miles of land in 16 Louisiana parishes and four Mississippi counties.¹⁵⁶ According to the Louisiana Agricultural Center Research and Extension, the combined total value in these parishes in 2014 for production of agriculture, forestry, fisheries and wildlife is over \$1 billion.¹⁵⁷ Much of this production requires adequate quantity and quality of water. All of these lands drain into rivers and bayous, which empty into Lake Pontchartrain and its connecting sister lakes, Maurepas and Borgne.

The Lake Pontchartrain Basin Restoration Program, through a collaborative and voluntary effort, strives to restore ecological health by developing and funding restoration projects within the sixteen parishes in the basin. The program continues to support the efforts of the Lake Pontchartrain Basin Foundation to restore and preserve the water quality, coast, and habitats of the entire Lake Pontchartrain basin. The Lake Pontchartrain Basin Foundation conducts sampling of the lake and tributary water quality to support related scientific and public education projects.

¹⁵⁶ Lake Pontchartrain Basin Foundation. <http://www.saveourlake.org/basin-history.php>.

¹⁵⁷ Louisiana Ag Center Research and Extension. <http://www.lsuagcenter.com/agsummary/archive/2014/Parish-Totals/2014ParishTotals.pdf>.

Southeast New England Coastal Watershed Restoration Program (SNECWRP)

Southeast New England (from Westerly, RI, to Pleasant Bay, MA) faces environmental challenges that are both unique and highly representative of critical national problems, especially in coastal areas. Problems include rivers hydrologically disconnected by dams and restrictions, lost wetland functions, urbanization and centuries-old infrastructure – all compounded by the increasing impacts of excess nutrients from wastewater, stormwater runoff, and atmospheric deposition. Excess nutrients have contributed to severe water quality problems including algal blooms, low dissolved oxygen conditions, fish kills, impaired benthic communities, and habitat loss (sea grass and salt marsh) in estuaries and near-coastal waters of this region and world-wide. The impacts of climate change, especially the likelihood of extreme weather events and increased precipitation, will further stress these systems in coming years, not only environmentally but also socially and economically. The challenge is to link environmental quality to economic opportunity and jobs by delivering local solutions in a regional and watershed context. Taking up and successfully addressing these issues will enable the program to serve as a model for other areas.

The Southeast New England Program serves as a hub to enable protection and restoration of the coastal watersheds of Southeast New England, including the ecosystem services that will sustain the region's communities and environmental assets into the future. SNECWRP draws upon networks of stakeholders and experts to seek out and support innovations in practices, technologies, and policies that will enable better and more effective watershed protection and restoration. The goal is to create a sustainable path for change and to lead the next generation of environmental management by:

- developing and investing in innovative, cost-effective restoration and protection practices, as well as new regulatory, economic, and technological approaches;
- integrating delivery of programs to the public by our fellow agencies and partners, including welcoming new partners;
- focusing on ecosystem services; and
- improving technology transfer and delivery of restoration programs across the region.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA and partner agencies will protect and restore targeted geographic areas impacted by sources of pollution. The EPA's FY 2017 efforts will focus on the following:

Northwest Forest

In FY 2017, the EPA will request \$965 thousand, including support for 4.9 FTE, in the Northwest Forest Program for the following activities:

- Continue stream reach sampling on 643 stream reaches and watershed condition/trend monitoring in 510 sub-watersheds in California, Oregon, Idaho, Montana, and Washington;

- Use remote sensing data and Geographic Information Systems data layers and field data to support a trend assessment on 5,679 sixth-field watersheds¹⁵⁸ in Oregon, Washington, Northern California, Montana, Idaho, Nevada, and Utah;
- Utilize upslope analysis, in-channel assessments, emerging research, and decision support models to inform management decisions and refine future monitoring efforts;
- Compile temperature and macroinvertebrate data and maintain approximately 530 year-round temperature monitoring stations to support state water quality and aquatic habitat reporting, including 303(d) listings;
- Complete/utilize field reviews of grazing activities and evaluate stream and riparian conditions to inform necessary management changes;
- Utilize aquatic monitoring to detect invasive species in streams and riparian areas;
- Coordinate with the Forest Service on a Science Synthesis in support of forest planning efforts;
- Assist Oregon in the ongoing development of Total Maximum Daily Loads and Best Management Practices for forestry practices in five Oregon coastal basins;
- Assist in the development of management measures for legacy roads (built prior to modern BMPs which may be chronic sources of sediment to streams); unstable slopes; and riparian buffers in support of the state's Coastal Non-Point Pollution Control Program;
- Roll out the Geomorphic Roads Assessment and Inventory Package (GRAIP), a GIS-based tool to identify and prioritize sources of sediment within watersheds. Support the linking of GRAIP with the EPA's national Waterscape Tool to make the tool available nation-wide;
- Continue working with partners and local water providers to address sediment and temperature impairments in forested watersheds. Sediment and temperature impairments affect key downstream uses including the provision of municipal water and fish and shellfish operations;
- Work with land management agencies to inform management in key source water areas with the objective of ensuring production and delivery of clean and sustainable water while achieving economic efficiencies. Effective management of forest cover in source water areas can decrease drinking water treatment and chemical costs by 20 percent;¹⁵⁹
- Engage in an interagency forum at the executive and management levels for Washington, Oregon, and California and a similar forum for the interior Columbia Basin.¹⁶⁰ These two broad-scale collaborative efforts address policy, management, and technical natural resource issues that are key to water quality and drinking water protection; and
- Engage in collaborative efforts including the Oregon Watershed Enhancement Board;¹⁶¹ Collaborative Forest Landscape Restoration Projects;¹⁶² and the Deschutes National Forest Provincial Advisory Committee.¹⁶³ These collaborative efforts are at the forefront of efforts

¹⁵⁸ A sixth field watershed is a hydrological unit. Watersheds in the United States were delineated by the U.S. Geological Survey using a national standard hierarchical system based on surface hydrologic features and are classified into the following types of hydrologic units: First-field (region); Second-field (sub-region); Third-field (accounting unit); Fourth-field (cataloguing unit); Fifth-field (watershed); and Sixth-field (sub-watershed). For more information visit: <http://water.usgs.gov/GIS/huc.html>.

¹⁵⁹ Ernst, Caryn. 2004. Protecting the Source. Published by the Trust for Public Land and American Water Works Association. Available at http://www.tpl.org/sites/default/files/cloud.tpl.org/pubs/water-protecting_the_source_final.pdf. Accessed July 25, 2012.

¹⁶⁰ Idaho, Montana, Wyoming, Utah, Eastern Oregon/Washington.

¹⁶¹ <http://www.oregon.gov/oweb/Pages/index.aspx>.

¹⁶² <http://www.fs.fed.us/restoration/CFLRP/>.

¹⁶³ <http://www.fs.usda.gov/main/deschutes/workingtogether/advisorycommittees>.

to conserve and restore water quality using alternatives to traditional regulatory and enforcement-related approaches.

Lake Pontchartrain

The program will continue to restore the ecological health of the Lake Pontchartrain Basin. In FY 2017, the EPA will request \$948 thousand in the Lake Pontchartrain Basin Program for the following activities:

- Continue implementation of the Lake Pontchartrain Basin Program Comprehensive Management Plan¹⁶⁴ and Comprehensive Habitat Management Plan to support:
 - Planning and design of consolidated wastewater treatment systems to support sustainable infrastructure;
 - Studies on system repair and replacement to improve existing wastewater systems; and
 - Investigation and design of stormwater management systems.
- Conduct water quality monitoring outreach and public education projects that address the goals of the Lake Pontchartrain Basin Program Comprehensive Management Plan to:
 - Improve the management of animal waste lagoons by educating and assisting the agricultural community on lagoon maintenance techniques;
 - Protect and restore critical habitats and encourage sustainable growth by providing information and guidance on habitat protection and green development techniques; and
 - Reduce pollution at its source and mitigate any impacts to Lake Pontchartrain from the past major oil spill.

Southeast New England Coastal Watershed Restoration Program (SNECWRP)

In FY 2017, the EPA will request \$5 million in technical assistance, grants, and/or contracts to spur investment in regionally significant and/or landscape-scale restoration opportunities, more fully integrate restoration actions, promote policy and technology innovation, and encourage ecosystem (water quality and habitat) approaches. Specific activities include:

- Investing in regionally significant and/or landscape-scale restoration opportunities that address habitat restoration, water quality (nutrients, stormwater, nonpoint source pollution, etc.), climate change, and management of cumulative impacts;
- Collaborative partnering among the Narragansett Bay and Buzzards Bay National Estuary Programs, the states of Rhode Island and Massachusetts, the Cape Cod Commission and other Cape organizations, municipalities, and key stakeholders to identify, test, promote, and implement approaches that can be replicated across Southeastern New England, with an initial focus on nutrients and stormwater;
- Funding and overseeing pilot projects to introduce innovations and practices that accelerate ecosystem restoration and minimize nutrient impacts;

¹⁶⁴ <http://www.saveourlake.org/management-plan.php>.

- Improving efficiency and effectiveness by coordinating and/or leveraging operations, resources, and funding principles among restoration partners, including federal and state agencies;
- Building capacity of municipalities and other organizations to actively participate in implementing restoration projects and effectively managing their environmental programs; and
- Incorporating assessment and adaptive management feedback and mechanisms into current practices to improve the next generation of projects.

Performance Targets:

Work under these programs supports the Protect and Restore Watersheds and Aquatic Ecosystems objective. Currently, there are no performance measures for this specific program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$94.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$574.0) This program change reflects a reduction in collaborative efforts that conserve and restore water quality on forest and range lands in seven western states.

Statutory Authority:

Clean Water Act, §§ 104(b)(3), 121.

Program Area: Homeland Security

Homeland Security: Communication and Information

Program Area: Homeland Security

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$3,291.5	\$3,877.0	\$4,106.0	\$229.0
Total Budget Authority / Obligations	\$3,291.5	\$3,877.0	\$4,106.0	\$229.0
Total Workyears	10.9	11.7	11.7	0.0

Program Project Description:

The White House, Congress, and the Department of Homeland Security (DHS) have defined expectations for the EPA in the event of a homeland security incident through a series of statutes, presidential directives, and national plans. The EPA uses the Homeland Security Collaborative Network (HSCN), a cross-agency leadership group, to support its ability to implement this broad range of homeland security responsibilities, ensure consistent development and implementation of homeland security policies and procedures, avoid duplication, and build a network of partnerships. The EPA's homeland security program also capitalizes on the concept of "dual-benefits," so that its homeland security efforts enhance and integrate with the EPA's core environmental programs that serve to protect human health and the environment. As the EPA Federal Intelligence Coordination Office (FICO), the EPA's Homeland Security Program/Office coordinates analytic intelligence support capacity across EPA to meet EPA requirements and EPA whole of government obligations. The EPA has identified five major focus areas where reports, analyses, and data containing information about the: climate, environment, and threats to human health; homeland security information; terrorism information; weapons of mass destruction information; and national intelligence are necessary for the accomplishment of the agency's mission.

Timely and effective environmental information is a key factor in the protection of human health and the environment during an emergency. Homeland security information technology efforts are closely coordinated with the agencywide information security and infrastructure activities, which are managed in the Information Security and Information Technology (IT)/Data Management programs. These IT support programs also enable video contact among localities, headquarters, Regional Offices, and laboratories in emergency situations.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA's Homeland Security Program will:

- Support federal, state, Tribal, and local efforts to prevent, protect, mitigate, respond to, and recover from natural disasters, acts of terrorism, and other emergencies by providing leadership and coordination across the EPA's program offices and regions.
- Ensure a coordinated approach to the EPA's homeland security activities and resources that align with government-wide homeland security priorities and requirements.
- Focus on maintaining the agency's level of preparedness to respond to and recover from a significant event through maintenance of personnel and equipment capabilities and capacities.
- Focus on filling critical knowledge and technology gaps that may be essential for an effective EPA response, including working with our interagency partners to define collective capabilities and resources that may contribute to closing common homeland security gaps.
- Provide the EPA end-user with relevant, accurate, reliable, objective, and timely intelligence bearing on matters of environmental policy and regulation, domestic threats where EPA functions to preserve or assist in the restoration of human health and the environment, and all other national security activities vital for the performance of EPA programs, personnel, and infrastructure. Ensure that interagency intelligence-related planning and operational requirements are met. This is achieved through coordination with the U.S. Intelligence Community, including the Office of the Director for National Intelligence, the Department of Homeland Security, the Central Intelligence Agency, the National Security Agency, the Federal Bureau of Investigation, the Department of Defense, and the White House National Security Council Staff.
- Continue phased implementation of Executive Order 13587 (*Structural Reforms to Improve the Security of Classified Networks and the Responsible Sharing and Safeguarding of Classified Information*) to meet the main pillars of classified information protection with a focus on the implementation of an Insider Threat program to address and mitigate threats to national security. Insider Threat program implementation will begin with agencywide training and awareness; and the design, development, and maintenance of computer-based secure data capture, training and reporting capabilities (web pages/homepages) and other computer-based data repositories to support the establishment of the Insider Threat HUB.
- Track emerging national/homeland security issues, through close coordination with the U.S. Intelligence Community, to anticipate and avoid crisis situations and target the agency's efforts proactively against threats to the United States.

The EPA's FY 2017 resources support national cybersecurity efforts through monitoring across the agency's IT infrastructure to detect, remediate, and eradicate malicious software or Advanced

Persistent Threats (APT) from the EPA's computer and data networks and through improved detection capabilities. The EPA will enhance internal Computer Security Incident Response Capability (CSIRC) to ensure rapid identification and reporting of suspicious activity and will increase training and awareness of cybersecurity threats. EPA personnel are active participants in Government Forum of Incident Response Teams (GFIRST), a DHS-led group of experts from incident response and security response teams. Indicators and warnings are shared between the EPA incident responders and their cleared counterparts in other agencies and with the Intelligence Community.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently, there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$58.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs for existing FTE due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$249.0) This program change reduces resources to coordinate IT efforts supporting homeland security across the agency due to progress made. Savings will be achieved from areas with expected progress such as improving foundational capabilities and closing gaps in IT security architecture.
- (+\$420.0) This program change reflects an increase in resources for homeland security activities related to communication, policies, and procedures and increases resources to support and coordinate homeland security efforts across the agency.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Resource Conservation and Recovery Act (RCRA), §§ 1001, 2001, 3001, 3005; Safe Drinking Water Act (SDWA); Clean Water Act, §§ 101, 102, 103, 104, 105, 107; Clean Air Act, §§ 102, 103, 104, 108; Toxic Substances Control Act (TSCA), §§ 201, 301, 401; Federal Insecticide Fungicide and Rodenticide Act (FIFRA), §§ 136a-136y; Bio Terrorism Act of 2002, §§ 303, 305, 306, 307; Homeland Security Act of 2002; Post-Katrina Emergency Management Reform Act; Defense Against Weapons of Mass Destruction Act; Food Safety Modernization Act, § 208.

Homeland Security: Critical Infrastructure Protection

Program Area: Homeland Security
Goal: Protecting America's Waters
Objective(s): Protect Human Health

Goal: Addressing Climate Change and Improving Air Quality
Objective(s): Improve Air Quality

Goal: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance
Objective(s): Enforce Environmental Laws to Achieve Compliance

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Science & Technology	\$10,786.3	\$10,517.0	\$10,904.0	\$387.0
<i>Environmental Program & Management</i>	<i>\$1,147.3</i>	<i>\$972.0</i>	<i>\$1,020.0</i>	<i>\$48.0</i>
Total Budget Authority / Obligations	\$11,933.6	\$11,489.0	\$11,924.0	\$435.0
Total Workyears	21.6	23.1	23.1	0.0

Program Project Description:

This program includes the EPA's efforts to coordinate and support the protection of the nation's critical water infrastructure from terrorist threats and all-hazard events through effective information sharing and dissemination.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to build capacity to identify and respond to threats to critical national water infrastructure by:

- Providing timely information on contaminant properties, water treatment effectiveness, detection technologies, analytical protocols, and laboratory capabilities;
- Supporting effective communications across the water sector and other critical interdependent sectors, such as energy, emergency services, and health care;
- Supporting effective communication conduits to disseminate threat and incident information and to serve as a clearinghouse for sensitive information;
- Promoting information sharing between the water sector and environmental professionals, scientists, emergency services personnel, law enforcement, public health agencies, the intelligence community, and technical assistance providers. Through this exchange, water systems can obtain up-to-date information on current technologies in water security, accurately assess their vulnerabilities to terror acts, and work cooperatively with public

health officials, first responders, and law enforcement officials to respond effectively in the event of an emergency;

- Providing water utilities, of all sizes, access to a comprehensive range of important materials, including the most updated information, tools, training, and protocols designed to enhance the security, preparedness, and resiliency of the water sector; and
- Ensuring that water utilities receive timely and informative alerts about changes in the homeland security advisory level or about regional and national trends in certain types of water-related incidents. For example, should there be types of specific, water-related threats or incidents that are recurring, the EPA, in coordination with DHS and other appropriate agencies, needs to alert the utilities of the increasing multiple occurrences or “trends” of these incidents.

Effective information sharing protocols allow the water sector not only to improve their understanding of the latest water security and resiliency protocols and threats, but also to reduce their risk by enhancing their ability to prepare for an emergency. The FY 2017 request level for the information sharing networks is \$1.0 million.

Performance Targets:

Work under this program supports the strategic objective Protect Human Health. Currently, there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$48.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs for existing FTE due to adjustments in salary, essential workforce support, and benefit costs.

Statutory Authority:

Safe Drinking Water Act (SDWA), §§ 1431-1435; Clean Water Act; Public Health Security and Bioterrorism Emergency and Response Act of 2002; Emergency Planning and Community Right-to-Know Act (EPCRA), §§ 301-305.

Homeland Security: Protection of EPA Personnel and Infrastructure

Program Area: Homeland Security

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$5,610.7</i>	<i>\$5,346.0</i>	<i>\$6,392.0</i>	<i>\$1,046.0</i>
Science & Technology	\$541.0	\$552.0	\$605.0	\$53.0
Building and Facilities	\$7,957.7	\$6,676.0	\$7,875.0	\$1,199.0
Hazardous Substance Superfund	\$1,351.7	\$1,086.0	\$1,113.0	\$27.0
Total Budget Authority / Obligations	\$15,461.1	\$13,660.0	\$15,985.0	\$2,325.0
Total Workyears	3.1	12.2	12.2	0.0

Program Project Description:

This EPA Homeland Security Program supports management and operations for the EPA Personnel Access and Security System (EPASS) which is designed to enroll, print, and issue an EPASS badge for nearly 25,000 EPA employees and contractors; for the National Security Information (NSI) program, which manages and safeguards the agency's classified information; for emergency preparedness programs, activities, and training for EPA personnel; and for mitigating security vulnerabilities at agency facilities.

FY 2017 Activities and Performance Plan:

As part of nationwide protection of buildings and critical infrastructure, the EPA performs vulnerability assessments on approximately 13 to 15 facilities each year. Through this program, the agency also recommends security risk mitigations, oversees access control measures, determines physical security measures for new construction and leases, and manages the lifecycle of security equipment.

The EPA initiates and adjudicates approximately 4,000 investigations, processes 3,700 fingerprint checks, determines eligibility to access classified NSI, and maintains approximately 25,000 personnel security records. The EPA safeguards NSI through mandatory NSI security education and training, on-site NSI inspections and vulnerability assessments, overseeing the EPA's Sensitive Compartmented Information Program and Industrial Security Program, and managing NSI-related databases.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently, there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$100.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs for existing FTE due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$1,692.0) This program change increases funding for the agency's background investigation program due to new requirements in addition to OPM fee increases. These resources are necessary to support the increased demand for the initiation and adjudication of background investigations.
- (-\$746.0) This program change decreases funding for the Homeland Security program as a result of agencywide efforts to develop more effective business processes and the review and redesign of core business processes to further leverage technology.

Statutory Authority:

Intelligence Reform and Terrorism Prevention Act of 2004; Homeland Security Act of 2002; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Program Area: Information Exchange / Outreach

Children and Other Sensitive Populations: Agency Coordination

Program Area: Information Exchange / Outreach

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$6,194.2</i>	<i>\$6,548.0</i>	<i>\$7,842.0</i>	<i>\$1,294.0</i>
Total Budget Authority / Obligations	\$6,194.2	\$6,548.0	\$7,842.0	\$1,294.0
Total Workyears	19.7	21.8	21.8	0.0

Program Project Description:

The program coordinates and advances the protection of children’s environmental health across the EPA to reinforce the agency’s mission to protect human health through: developing regulations; improving risk assessment and science policy; implementing community-level programs; and tracking and communicating measures, indicators, and progress on children’s health. The children’s health protection effort is directed by the EPA’s 1995 *Policy on Evaluating Health Risks to Children*, the 1997 Executive Order 13045 *Protection of Children’s Health from Environmental Health Risks and Safety Risks*, the EPA’s 2010 memorandum *EPA’s Leadership in Children’s Environmental Health*, and the EPA’s 2013 reaffirmation of the 1995 Policy.¹⁶⁵ Legislative mandates such as the Safe Drinking Water Amendments of 1996 and the Food Quality Protection Act of 1996 also direct the agency to protect children and other vulnerable life stages.^{166,167}

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to use a variety of approaches to protect children from environmental health hazards by addressing children’s health concerns as part of the implementation of community-based programs, the regulatory development process, research, science policy, and outreach. In FY 2015, Office of Children’s Health Protection (OCHP) accomplishments included: finalizing and collecting baseline data for the Strategy for Protecting Children’s Environmental Health FY 2015-2018 (internal document); working with the Regulatory Steering Committee to finalize a new template for regulatory preambles to address EO 13045 Protection of Children from Environmental Health Risks and Safety Risks and beginning implementation of the new template; and convening a principal’s level meeting of the President’s Task Force on Environmental Health Risks and Safety Risks to Children, which included representatives from 20 federal departments, agencies, and offices, to review the Task Force’s

¹⁶⁵ For more information: <http://www2.epa.gov/children/history-childrens-environmental-health-protection-epa>.

¹⁶⁶ The Energy Independence and Security Act of 2007 directs the EPA to produce guidelines on the safe siting of schools and guidelines to states on school environmental health programs in order to protect children from environmental hazards where they learn.

¹⁶⁷ The 1996 amendments to the Safe Drinking Water Act require the EPA to strengthen protection of children by considering the risk to the most vulnerable populations and life stages when setting standards. The Food Quality Protection Act (FQPA) of 1996 amended the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA) to include stricter safety standards for pesticides, especially for infants and children, and a complete reassessment of all existing pesticide tolerances.

recent accomplishments and to reiterate its important role in accomplishing the goals set out by EO 13045.

In FY 2017, the Children's Health Protection program will continue to review results from agency-level strategic plans to help identify the best approaches to protecting children from health risks. To measure progress, OCHP will utilize existing databases and procedures designed to track agency-level performance for specific children's health results. The Children's Health program also will take the lead in promoting approaches to ensure that the EPA's programs and Regional Offices are successful in their efforts to protect children's environmental health. These activities include the following:

- Continuing to work internally and with other agencies, states, and tribes to improve coordination across the agency to ensure that policies and programs explicitly consider and use the most up-to-date methods and data for protecting children from heightened public health risks.
- Continuing to serve as a co-lead for the interagency efforts of the President's Task Force on Environmental Health Risks and Safety Risks to Children alongside the Department of Health and Human Services. As part of this effort, the program will coordinate with other related agencies to improve federal government-wide support in implementing children's health legislative mandates and children's health outreach. This will include providing children's environmental health expertise on interagency activities and coordinating expertise from program offices. Through the Task Force, the EPA will work to advance its contributions to federal initiatives – including the *Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities*,¹⁶⁸ *Advancing Healthy Housing – A Strategy for Action* (a report from the Federal Healthy Homes Work Group) and the *President's Climate Action Plan*.^{169,170}
- Continuing to serve as the lead program to implement and coordinate with programs that protect children where they live, learn, and play by:
 - Promoting and offering technical assistance for the adoption of the agency's School Guidelines and other programmatic school environmental health tools;¹⁷¹
 - Providing training, curriculum, and assessment resources regarding children's environmental health to child care providers and government agencies that oversee centers;
 - Establishing relationships with national youth organizations to educate and empower children about environmental health in extracurricular and afterschool settings; and
 - Promoting healthy homes and child care centers by incorporating a strong message regarding the unique vulnerabilities of children into related training (e.g., training for

¹⁶⁸ The Asthma Disparities Action Plan: http://www.epa.gov/childrenstaskforce/federal_asthma_disparities_action_plan.pdf.

¹⁶⁹ The Healthy Housing Strategy for Action: http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes/advhh.

¹⁷⁰ The President's Climate Action Plan: <http://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf>.

¹⁷¹ The EPA's Voluntary Guidelines for States: Development and Implementation of a School Environmental Health Program and Voluntary School Siting Guidelines: <http://www.epa.gov/schools/>, <http://www.epa.gov/schools/school-siting-guidelines>, and <http://www.epa.gov/schools/state-school-environmental-health-guidelines>.

energy auditors, weatherization workers, code inspectors, and community health workers).

- Addressing the potential for unique exposures, health effects, and health risks in children during the development of agency regulations and policies by actively participating on regulatory workgroups and ensuring that regulatory developers receive children’s health training.
- Working with internal and external partners to improve the scientific understanding of children’s environmental health concerns by:
 - Coordinating with research partners to fill critical knowledge gaps on children’s unique vulnerabilities. The program will collaborate with the Research and Development program, Children’s Environmental Health and Disease Prevention Research Centers and others on many activities including: research planning, relevancy reviews (participating on research grant review teams to highlight children’s environmental health topics), research presentations and publications, and translating and applying research findings.
 - Improving the EPA’s risk assessment and science policies and their implementation tools to ensure they address unique, early-life health susceptibilities including those for multiple environmental hazards and stressors.
- Sharing scientific data for the development of standards, policies, and guidance that protect children domestically and internationally by eliminating potentially harmful prenatal and childhood environmental exposures.
- Working with international partners to protect children by sharing research/study results and effective outreach and communication materials with a particular focus on climate change adaptation and resilience.
- Increasing environmental health knowledge (e.g., working with the Pediatric Environmental Health Specialty Units (PEHSUs)) of health care providers related to prenatal and childhood exposures and health outcomes with a focus on vulnerable groups through outreach activities.
- Continuing to work on the established targets and action plans for the *FY 2014-2018 EPA Strategic Plan* and agencywide *Strategy for Protecting Children’s Environmental Health FY 2015-2018*.

Performance Targets:

Work under this program supports the strategic objective to “Ensure Chemical Safety.” Currently there are no performance measures specific to this program. Agency efforts for protecting children’s environmental health are included under the Communities Cross-Agency Strategy and enumerated for the *FY 2014-2018 EPA Strategic Plan* in the *Strategy for Protecting Children’s Environmental Health FY 2015-2018*.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$793.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs for existing FTE due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$501.0) This program change increases resources for technical assistance and emergency response services available to communities through Pediatric Environmental Health Specialty Units, a source of medical information and advice on environmental conditions that influence reproductive and children's health. Additionally, this funding increases technical assistance provided to states and communities through the agency's emphasis on Healthy Communities.

Statutory Authority:

Energy Independence and Security Act of 2007; Food Quality Protection Act of 1996; Safe Drinking Water Act Amendments of 1996; Clean Air Act § 103; Clean Water Act § 104; RCRA § 8001; Pollution Prevention Act.

Environmental Education

Program Area: Information Exchange / Outreach

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Promote Sustainable and Livable Communities

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$9,578.7	\$8,702.0	\$11,157.0	\$2,455.0
Total Budget Authority / Obligations	\$9,578.7	\$8,702.0	\$11,157.0	\$2,455.0
Total Workyears	10.8	11.1	12.0	0.9

Program Project Description:

This program ensures that Environmental Education (EE), based on science and effective education practices, is used as a tool to promote the protection of human health and the environment, encourage student engagement through service projects, advance community engagement and empowerment, and support the EPA's strategic goals, priorities, and programs. EE is fundamental to the EPA's mission and cross-cutting priorities in that it supports environmental literacy development through teaching the public about environmental challenges, actionable choices, and environmental stewardship.¹⁷²

The National Environmental Education Act (NEEA) provides a foundation for the EPA's EE program. The EE program implements the NEEA, providing national direction and leadership, and works in partnership with other leading EE organizations to support K-12 schools, colleges and universities, federal and state agencies, and community organizations to assess needs, establish priorities, and leverage resources. Specifically, the EE program 1) ensures that education from the EPA is of high-quality, reliable, and easily accessible to the public; 2) advances environmental literacy; 3) encourages broad citizen involvement, including that of diverse and underserved communities; 4) improves individual capacity to take effective, environmentally responsible action; and 5) encourages partnerships and linkages across sectors, such as public-private partnerships and federal-state partnerships that broaden the reach and impact of EE in advancing the EPA's strategic interests.

The EE program builds upon existing work to support, among other things, projects in communities across the nation that address local-level EE needs and priorities as well as national, state, and local level capacity building for EE through the development of online courses, peer-reviewed EE guidelines development and training, and development of other materials and resources for EE professionals, practitioners, and affiliate networks. The EE program also coordinates agency education activities. It establishes new efforts to increase intra- and interagency collaboration as well as partnerships and initiatives with non-federal entities in support of the EPA's goals and priorities. Through these projects, initiatives and partnerships, the EE program supports environmental literacy development of K-12 and university students, adult learners, underserved

¹⁷² For additional information, refer to: <http://www2.epa.gov/education>.

communities, and the general public. The program trains formal and non-formal educators and provides them with high quality materials on environmental and public health topics.

FY 2017 Activities and Performance Plan:

In accordance with the strict allocations prescribed by NEEA, FY 2017 resources will help implement the following major programs and activities:

- Developing a new strategic planning process for the EE program –which will include measures development. Input on a set of draft goals will be sought from other federal agencies involved in environmental protection and/or natural resource management as well as from a select number of non-federal stakeholders. The expected date of completion is spring 2017.
- Administering the National Environmental Education Grant program – Building on the successes of FY 2015 EE grant awards, similar positive results are expected from continued implementation of this program in FY 2017. The program will be enhanced by targeting a portion of its grants to educate the public about specific environmental issues. In FY 2017 the program will address legacy chemicals, particularly the lead burden for renters in underserved communities and the prevalence of PCBs in unrenovated schools.
- In calendar year 2015, the EPA awarded EE grants to non-profit organizations, local education agencies, universities, community colleges, and state and local environmental agencies, to increase public awareness, knowledge, literacy, and stewardship among students and the public on environmental issues of concern to citizens across the country, including many low-income, minority, and Tribal populations.¹⁷³ Examples of the most recently awarded grants are listed below.
 - Montana State University encourages Tribal college students to consider environmental careers by raising their awareness of local environmental issues and increasing opportunities for them to pursue the types of degrees needed to address those issues.
 - The Alaska Song Bird Institute is mentoring and training urban and rural Alaskan students, teachers and volunteers (including Alaska Native elders and other senior citizens) to use the scientific process to collect, analyze and present ecological data in support of community-based conservation efforts.
 - The Minnesota Humanities Center is assisting rural Minnesota communities in hosting a Smithsonian Water Exhibition and related educational programs at local county museums, libraries, parks, schools, churches, and community and senior centers to enhance understanding of and commitment to local water issues.
 - The Merito Foundations, located in Ventura, CA, is providing energy, climate and ocean literacy education for minority students in grades 8-12, empowering them to develop energy efficiency proposals for their schools and increasing their awareness of careers in the environmental field.
- Awarding a new cooperative agreement for the National Environmental Education Training Program – which will focus on the development and delivery of environmental education training and long-term technical and analytic support, professional development, and networking to education professionals across the United States. Activities under this

¹⁷³ For additional information, refer to: <http://www2.epa.gov/education/environmental-education-ee-grants>.

cooperative arrangement include: delivering educator training, including training on the national EE Guidelines; supporting state infrastructure that enables educators to effectively teach about environmental issues; and supporting formulation of EE programs, materials, and studies.

- Issuing EE Awards for students and teachers through the implementation of both the President’s Environmental Youth Award program and the Presidential Innovation Award for the Environmental Educators program,
- Managing the National Environmental Education Advisory Council;¹⁷⁴
- Providing funding to the National Environmental Education Foundation (NEEF);¹⁷⁵
- Funding initiatives and supporting partnerships to, among other things, build, enhance, and support the following:
 - Inter- and intra-agency coordination to improve EE across the EPA and the federal government, including through technical assistance, funding, and innovation in the areas of program development, implementation, management, and strategic planning for EE design and dissemination:
 - Program support, in conjunction with U.S. Fish and Wildlife Service (FWS) and NEEF, for the Hands on the Land network of field classrooms, providing students, teachers, and communities learning opportunities on public lands.
 - Program support, in cooperation with the FWS, the North American Association for Environmental Education (NAAEE), and others, for a systematic review/analysis of research to highlight the evidence-based impact and benefit of EE as well as the development of lifelong learning and stewardship skills; and
 - Partnerships with the National Oceanic and Atmospheric Administration (NOAA), NAAEE, NEEF, and other national, state, and regional EE organizations, to analyze EE through the collection and evaluation of data on state environmental literacy plans, among other data points.
 - Efforts to develop a framework and tools for measuring the impacts of EE, for national, state, and local level formal and non-formal EE experts and educators of pre-K-16 and adult learners;
 - A global Learning Network designed to build capacity to design and implement high quality EE programming in countries by strengthening, sustaining, and institutionalizing environmental education; and
 - Public-private partnerships that broaden the reach and impact of EE – for example, partnerships to promote greater youth and other stakeholder engagement and education through green sports initiatives.
- Piloting an evaluation of the EE grant program following the 2016 development of the design phase of the associated research protocol.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

¹⁷⁴ For additional information, refer to: <http://www2.epa.gov/education/national-environmental-education-advisory-council>.

¹⁷⁵ For additional information, refer to: <http://www.neefusa.org>.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$183.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs for existing FTE due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$2,272.0 / +0.9 FTE) This program change reflects an increase in funding to meet the required staffing levels and corresponding funding requirements under the NEEA. This also reflects increased support for administration of EE grants; advancement of the frameworks and tools used for measuring EE impacts; better leveraging of EE efforts across the federal government; and development of the longer-term strategic direction for the program.

Statutory Authority:

National Environmental Education Act (NEEA); Clean Air Act, § 103; Clean Water Act, § 104; Solid Waste Disposal Act (SWDA), § 8001; Safe Drinking Water Act (SDWA), § 1442; Toxic Substances Control Act (TSCA), § 10; Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), § 20.

Executive Management and Operations

Program Area: Information Exchange / Outreach

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$46,780.2</i>	<i>\$47,019.0</i>	<i>\$49,537.0</i>	<i>\$2,518.0</i>
Total Budget Authority / Obligations	\$46,780.2	\$47,019.0	\$49,537.0	\$2,518.0
Total Workyears	305.2	309.4	309.4	0.0

Program Project Description:

This program includes various offices and functions that provide critical executive and logistical support to the EPA's Administrator. In addition to the Administrator's Immediate Office (IO), resources in this program support five headquarters offices that help the agency communicate and coordinate its work to protect human health and the environment, including the Office of Congressional and Intergovernmental Relations, Office of Executive Services, Office of the Executive Secretariat, Office of Public Affairs, and Office of Public Engagement and Environmental Education.

Funding in this program also supports the EPA's ten Regional Administrators' offices. The headquarters and regional offices' activities serve as a critical link to the agency's engagement with outside entities, including: Congress, state and local governments, nongovernmental organizations, national and community associations, and the public. These activities include management, coordination and establishing policy.

Within this program, key functions include, but are not limited to: setting the agency's strategic goals and priorities; responding to Congressional requests for information; coordinating and providing outreach and liaising with state and local governments, agricultural and rural communities; and maintaining public information and communication with the press. This program also supports administrative management services involving correspondence control and records management systems; human resources management, budget formulation and execution, and information technology management services. Through the funding for this program, the EPA Administrator can better coordinate across the agency, apply more efficient management practices and provide greater accountability and transparency to our stakeholders.

FY 2017 Activities and Performance Plan:

In FY 2017, the Immediate Office of the Administrator (IO) will continue providing management, leadership and direction to all of the EPA's programs and activities and develop the guidance necessary to ensure achievement of the agency's strategic goals and priorities. In FY 2017, IO resources will primarily support critical workforce and telecommunications needs for staff. IO administrative personnel will provide secretarial support to accomplish the following activities: managing and processing approximately 100 invitations received per week for the Administrator to participate in various activities; staffing the agency's main phone line; managing scheduling; coordinating travel and facilitating advance work. The agency will continue to identify efficiencies allowing the Office of the Administrator (AO) to continue to manage, lead, and direct the EPA's programs and activities while ensuring achievement of the agency's strategic goals and priorities. In FY 2017, the IO will be funded¹⁷⁶ at a level of \$4.24 million and 23.8 FTE.

The Office of Congressional and Intergovernmental Relations (OCIR) (which consists of the Office of Congressional Affairs and the Office of Intergovernmental Relations) serves as the EPA's principal point of contact for Congress, states and local governments. OCIR serves as a liaison with these constituencies on the agency's major programs (e.g., Air, Water and Pesticides) and intergovernmental issues. OCIR also serves as the Regional Offices' advocate and ombudsman at headquarters and a critical link between the Regional/Deputy Regional Administrators, Administrator/Deputy Administrator, and Assistant Administrators. OCIR and its regional counterparts serve as a direct contact for Congress and state and local government officials during crises and for the numerous EPA program activities that directly impact elected and other senior state and local officials. In FY 2015, OCIR managed over one thousand letters from members of Congress and governors, processed 110 FOIAs, (a significant increase from previous years – 53 FOIAs in FY 2014 and in 65 FOIAs in FY 2013 were processed) and prepared senior leaders for 34 hearings (31 hearings in FY 2014, and 22 hearings in FY 2013) on a wide range of environmental issues. We anticipate this level of interest to continue in FY 2017.

In FY 2017, OCIR will be responsible for managing confirmation hearings for the new Administrator, Deputy Administrator and all appointees requiring Senate confirmation. The Office of Congressional Affairs (OCA) will prepare the EPA's officials for hearings, oversee responses to written inquiries and oversight requests from members of Congress, and coordinate and provide technical assistance and briefings on legislative areas of interest to members of Congress and their staff. In addition, OCA will coordinate with the White House's Office of Legislative and Intergovernmental Affairs and the Council for Environmental Quality on issues related to achieving the agency's goals and priorities.

OCIR's Office of Intergovernmental Relations (OIR) serves as the agency's liaison to state and local government officials and manages the Administrator's Local Government Advisory Committee (LGAC) and Small Community Advisory Subcommittee (SCAS). LGAC is the EPA's only federal advisory committee made up exclusively of locally elected and appointed officials from municipalities, tribes, and states. The office also coordinates the interactions of senior agency officials (including the Administrator and Deputy Administrator) with governors, mayors, environmental commissioners, and other state and local officials and their respective associations.

¹⁷⁶ This funding level includes \$369 thousand and 2 FTE from the Regional Science and Technology program.

These activities help inform and educate state and local officials on the EPA's actions and help ensure that agency policies and regulations consider impacts on state and local governments. The office also manages the EPA's implementation of the Federalism Executive Order 13132, which ensures proper and formal consultations with state and local governments so that their concerns are reflected in significant agency regulations and policies.

OIR also leads the agency's senior management team responsible for implementing the Partnerships Cross-Agency Strategy (CAS) in the *FY 2014-2018 Strategic Plan*. OIR will continue to work closely with headquarters program offices and Regional Offices on short and long term actions to achieve the goals defined in the CAS and supporting annual action plans. In addition, OIR will leverage its role as the National Program Manager for the National Environmental Performance Partnership System (NEPPS) to socialize and integrate recent improvements to make NEPPS more useful and effective for states. NEPPS is a performance-based system of environmental protection designed to drive performance, efficiency, and resource flexibility into the EPA-state partnerships that implement the nation's environmental programs. These efforts will support the Administrator's priority to establish a new era of state and local partnerships. In FY 2017, OCIR will be funded at a level of \$7.96 million and 51.6 FTE.

The Office of Public Affairs (OPA) facilitates the exchange of information between the EPA and the public, media, Congress, and state and local governments; broadly communicates the EPA's mission to protect human health and the environment; assists in public awareness of environmental issues; and informs EPA employees of important issues that affect them. OPA generally responds to approximately 8,900 media inquiries annually, oversees the production of more than 300 videos annually, and manages more than five hundred thousand webpages on EPA's website.

In FY 2017, OPA will continue to ensure it informs the media of agency initiatives and delivers timely, accurate information. The office will continue to update the agency's internet site to provide stakeholders with transparent, accurate and comprehensive information on the EPA's activities and policies. OPA will continue using multimedia and new media tools to provide stakeholders with information and foster understanding of the EPA's work. The office also will work with other EPA program offices to improve employee communications and collaboration, update the agency's intranet site to be more user friendly, and use other tools to provide agency information to employees. In FY 2017, OPA will be funded at a level of approximately \$6.28 million and 38.9 FTE.

In FY 2017, the Office of Public Engagement (OPE), located within the Office of Public Engagement and Environmental Education, will conduct outreach with stakeholders, including faith-based, neighborhood, multilingual, educational, and health groups and underserved populations to solicit feedback and ensure they have a better understanding of the actions the EPA is taking to protect public health and the environment. OPE also will continue the EPA's environmental outreach and education efforts to ensure teachers, students, and other members of the public have accurate, science-based information readily at their disposal. In FY 2017, OPE will be funded at a level of \$1.79 million and 12.0 FTE.

Over the last year, the office of Public Engagement has enhanced amplification of the Clean Power Plan, Clean Water Rule, Worker Protection Rule, and other priorities of the Administrator by

expanding the base of non-traditional stakeholder voices. OPE continues to apply the Administrator's theme of Making a Visible Difference in Communities in its outreach strategies. This office will continue to inform, educate and partner with an inclusive constituency on key agency priorities related to climate change, air, water, toxics and other related topics.

As the central administrative management component of the AO, the Office of Executive Services (OES) provides advice, tools, and assistance to the AO's programmatic operations, including: human resources management, budget and financial management, information technology and security, and audit management. In FY 2017, the OES will be funded at a level of \$3.42 million and 18.9 FTE.

The Office of the Executive Secretariat (OEX) manages the AO's correspondence, records management and Freedom of Information Act (FOIA) activities. OEX oversees the AO records management program, ensures that managers and staff are aware of their individual and programmatic responsibilities and is custodian of the Administrator's and Deputy Administrator's records. The office processes all FOIA requests for records within its custodianship and oversees the processing of FOIA requests in AO staff offices. The OEX correspondence team processes correspondence for the Administrator and Deputy Administrator and reviews and prepares documents for their signature. The team also manages the Administrator's primary email account, which receives more than one million messages annually. Finally, OEX operates the Correspondence Management System, which provides paperless workflow, tracking, and records management capabilities to more than three thousand registered users agencywide.

In FY 2017, OEX will continue providing critical administrative support to help the Administrator, Deputy Administrator, senior agency officials, and staff comply with the statutory and regulatory requirements under the Federal Records Act (FRA), FOIA, and related statutes and regulations. In particular, OEX will manage the departure of Obama Administration appointees in the AO to ensure that their records have been preserved and welcome the incoming appointees in the next administration to instruct them on their FRA and FOIA responsibilities. OEX will complete development/acquisition of the next-generation correspondence tracking tool and will implement the system agencywide. The new system will help reduce correspondence processing costs, improve accountability, and facilitate faster responses to the public, states, businesses, stakeholders, and Congress. In FY 2017, OEX will be funded at a level of \$2.31 million and 14.6 FTE.

The remaining funding and FTE under this program (\$23.5 million and 149.6 FTE) are regional resources used to support a variety of functions and activities such as congressional support, public affairs and executive management.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$2,101.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs for existing FTE due to adjustments in salary, essential workforce support, and benefits costs.
- (+\$417.0) This program change supports increased travel, expenses, and contract resources across the offices funded under this program to enable greater efficiencies in communications with stakeholders; to better support relations with Congress, state, and local governments; and to more efficiently control executive level correspondence.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA’s organic statute); Environmental Research, Development, and Demonstration Authorization Act (ERDDAA).

Exchange Network

Program Area: Information Exchange / Outreach

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$18,395.0</i>	<i>\$17,016.0</i>	<i>\$25,466.0</i>	<i>\$8,450.0</i>
Hazardous Substance Superfund	\$1,321.1	\$1,328.0	\$1,366.0	\$38.0
Total Budget Authority / Obligations	\$19,716.1	\$18,344.0	\$26,832.0	\$8,488.0
Total Workyears	35.1	30.2	30.2	0.0

Program Project Description:

The EPA's Environmental Information Exchange Network (EN) is a standards-based, secure approach for the EPA and its state, Tribal and territorial partners to exchange and share environmental data over the Internet. As it employs new technology and data standards, open-source software, shared and portal services for the E-Enterprise business strategy, and reusable tools and applications, the EN offers its partners tremendous potential for managing and analyzing environmental data more effectively and efficiently, leading to improved decision making.

The Central Data Exchange (CDX)¹⁷⁷ is the largest component of the EN program and serves as the point of entry on the Exchange Network for environmental data transactions with the agency. CDX provides a set of core services that promote a leaner and more cost-effective enterprise architecture for the agency by avoiding the creation of duplicative services. It also provides a set of value-added features and services that enable faster and more efficient transactions for internal and external clients of the EPA. Through CDX, a stakeholder can submit data through one centralized point of access, exchange data with target systems using Web services and utilize publishing services to share information collected by the EPA and other stakeholders (including states and tribes). CDX also provides central support for virtual signature services and reporting, and support for the Automated Commercial Environment, a system for import and export services for the U.S. Customs and Border Protection.

The agency's EN program also includes other tools and services, such as the Facility Registry Service (FRS), the Substance Registry Services, the Reusable Component Services and other registries within the EPA's System of Registries. The services are key tools for implementing the agency's E-Enterprise approach to modernizing business processes, and integrated systems and shared services. FRS provides key facility and locational information for the public interested in

¹⁷⁷ For more information on the Central Data Exchange, please visit: <http://www.epa.gov/cdx/>.

the EPA's data stores, such as Envirofacts, the Geoplatform, MyEnvironment, Cleanups In My Community and a host of other tools. The registries provide a platform to link data across other systems, environmental programs and even other agencies' data, enabling the EPA to bring data together for greater understanding of environmental issues. The registries are key integrators that promote discovery, access, sharing and understanding of the EPA's information and assets.

FY 2017 Activities and Performance Plan:

In FY 2017, the Exchange Network program will continue to be a pivotal component of the agency's E-Enterprise business strategy and Lean efforts to move toward a high performance organization by supporting business process changes agencywide. E-Enterprise for the Environment is a transformative 21st century strategy – jointly governed by states and the EPA – for rethinking how government agencies deliver environmental protection. Under this strategy, the agency will streamline its business processes and systems to reduce reporting burden on states and regulated facilities, and improve the effectiveness and efficiency of regulatory programs for the EPA, states and tribes.

Within the E-Enterprise business strategy context, the agency will continue to develop projects, such as E-Enterprise Portal and Federated Identity Management prototypes, that transform the EN from an array of disjointed but similar functions in states and tribes to a more open platform of services that make environmental data reporting, sharing and analysis faster, simpler and less expensive. In addition, as part of the E-Enterprise approach, the EN program will work across the EPA's offices to integrate and roll out additional reporting systems into CDX, such as pesticides reporting and updates, the high volume-reporting National Pollutant Discharge Elimination System (NPDES) program and Clean Air Act stationary-source emissions reporting.

In FY 2017, the EPA will continue to support the E-Enterprise business strategy, which facilitates two-way electronic transactions with the regulated community and external partners who routinely conduct environmental business with the EPA. It will enable customers and co-regulators of the EPA (states, tribes and territories) to conduct environmental business electronically and in a customizable format. For example, facilities will be able to go online to apply for permits, check compliance status, report their emissions and learn about new regulations that may apply to them. In accordance with E-Enterprise business strategy principles, the EPA will be able to replace outdated paper reporting with integrated reporting capacity using advanced technology and shared IT services. The paperwork and regulatory reporting burden will be reduced by more efficient collection, reporting and use of data.

In FY 2017, as part of the E-Enterprise business strategy, the EPA will carry out the following projects under the Exchange Network program: expanding the roll out of Federated Identity Management system for the EPA and its partners; developing shared facility identification services that improve quality and reduce burden on states, tribes; developing initial services for the EPA's Laws and Regulations (LRS) registry, which will standardize identification of and associations between regulations, laws, and the EPA's programs; and deploying reusable electronic signature services to streamline Cross-Media Electronic Reporting Regulation (CROMERR) compliance. Advancements in data transport services, such as Virtual Exchange Services (VES), are providing state-of-the-art cloud-based solutions for the EPA's state and Tribal partners.

In FY 2017, the EPA will continue to provide enhanced IT services and make them available for state, Tribal and territorial system implementations that will reduce resource requirements and streamline compliance with the CROMERR. In FY 2015, the EPA fully automated the CROMERR application submission and review process. The EPA is prepared for a significant increase in FY 2016 in the volume of CROMERR applications as a result of the mandatory electronic reporting rule for NPDES. In FY 2017 the EPA will continue to:

- Conduct robust outreach activities to increase awareness of VES, interfaces and CROMERR services and the benefits of using these services;
- Approve CROMERR applications from authorized programs that propose to use the EPA's virtual CROMERR services and assist co-regulators with integrating these services into their systems; and
- Provide virtual services to new Tribal partners and to existing state, Tribal, or territorial partners who are replacing or augmenting local Exchange Network nodes to better integrate services.

The above CROMERR activities are intended to assist states and tribes in the development activities associated with establishing a point of presence and exchanging data on the Network and supporting local electronic reporting programs in a more cost effective way. The proven success of this strategy is illustrated by improvements in performance measures, which include the number of states, tribes and territories exchanging data with CDX (from 69 in FY 2010 to 104 in FY 2015) and unique active users (up from 56,200 in FY 2011 to 85,894 in FY 2015). In addition, these efforts will facilitate the development of a CROMERR-compliant Hazardous Waste Electronic Manifest System, which will reduce reporting burden for the regulated entities.

In FY 2017, the System of Registries will continue efforts to allow greater sharing and better understanding of the EPA's data. Keeping the information current in the registries requires constant maintenance and research. This includes:

- Continued enhancement of the EPA's inventory of systems and computational models, the Registry of EPA Applications Models and Databases (READ), including associating systems with the relevant programs, laws and regulations cataloged in LRS;
- Continued updates to the EPA's enterprise dataset registry, the Environmental Dataset Gateway, to meet the EPA's priority of improving data accessibility, to achieve compliance with Open Data Policy requirements (OMB M-13-13), and to pursue the establishment of an administrative dataset registry;
- Continued development of new data dictionaries for systems cataloged in READ, and updating existing data dictionaries, thus encouraging re-use of data elements in existing systems, and reducing redundant data collection; and
- Continued collection of environmental laws and regulations in a manner that indexes their associations with each other, and the EPA programs that implement them to improve the

EPA’s information management and help the public to discover which agency programs manage which environmental regulations and statutes.

The EPA also will continue to improve information management of its IT resources through its catalog of IT services (e.g., widgets, Web services, reusable code). The Reusable Component Services are a resource that enable the EPA’s programs to reuse standard system functions in whole or in part, thus saving money and time for states and Tribal governments and the EPA.

In FY 2017, FRS will continue to identify and geospatially locate facilities, sites or places of environmental interest that are subject to regulation. Using rigorous verification and data management procedures, FRS will continue to integrate facility data from the EPA’s national program systems, other federal agencies and state and Tribal master facility records; it also will enhance and implement a service that enables direct reporters to pre-populate and correct their facility data. The EPA will continue work initiated by a state/EPA integrated project team that was chartered in late FY 2015 to identify opportunities to integrate SRS services into online reporting forms and other online tools.

In FY 2017, the EPA will continue to work with the Department of Homeland Security’s Customs and Border Protection (CBP) to improve the importation process of products that are of dual interest to the EPA and CBP. With the successful conclusion of the pilot test for electronic reporting and processing of EPA-regulated imports for vehicles and engines, pesticides and toxic substances, the EPA will continue to support the program in FY 2017. This electronic reporting will aid regional enforcement coordinators by automating what is currently a manual review process and allow them to focus on key high-value monitoring and targeting activities for noncompliant imports.

Performance Targets:

Measure	(052) Number of major EPA environmental systems that use the CDX electronic requirements enabling faster receipt, processing, and quality checking of data.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	60	60	67	75	80	77	80	90	Systems
Actual	60	64	68	73	89	107			

Measure	(053) States, tribes and territories will be able to exchange data with CDX through nodes in real time, using standards and automated data-quality checking.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	65	65	80	95	98	103	140	140	Users
Actual	69	72	92	97	102	104			

Measure	(999) Total number of active unique users from states, tribes, laboratories, regulated facilities and other entities that electronically report environmental data to EPA through CDX.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target		Baseline Year	58,000	70,000	75,000	84,000	90,000	100,000	Users
Actual		56,200	65,238	79,818	96,000	85,894			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$38.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.

- (+\$8,412.0) This program change provides funding for projects that will enable states, tribes, and the EPA to modernize business processes following E-Enterprise principles. The projects will tie together the EPA's environmental program databases and information requirements and facilitate industries' ability to routinely conduct environmental business transactions with the EPA. Projects included under this E-Enterprise framework for FY 2017 are:
 - Regulatory Modeling and Business Process Platform (licenses and infrastructure);
 - Federated Identity Management implementation;
 - Information registry enhancements;
 - Development costs for transitioning legacy systems;
 - E-Enterprise central help desk;
 - E-Enterprise cloud platform service;
 - Architecture planning and development; and
 - Deployment of reusable electronic signature services to streamline CROMERR implementation.

Statutory Authority:

Federal Information Security Management Act (FISMA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Clean Air Act (CAA); Clean Water Act (CWA); Toxic Substances Control Act (TSCA); Federal Insecticide Fungicide and Rodenticide Act (FIFRA); Resource Conservation and Recovery Act (RCRA); Government Performance and Results Act (GPRA); Government Management Reform Act (GMRA); Clinger-Cohen Act (CCA); Paperwork Reduction Act (PRA); Controlled Substances Act (CSA); The Privacy Act of 1974; Freedom of Information Act (FOIA).

Small Business Ombudsman

Program Area: Information Exchange / Outreach

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Promote Pollution Prevention

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$1,876.4</i>	<i>\$1,999.0</i>	<i>\$2,357.0</i>	<i>\$358.0</i>
Total Budget Authority / Obligations	\$1,876.4	\$1,999.0	\$2,357.0	\$358.0
Total Workyears	4.7	4.9	4.9	0.0

Program Project Description:

The EPA’s Small Business Ombudsman program includes both the Asbestos and Small Business Ombudsman and the small business activities located in the Office of Policy’s Office of Regulatory Policy and Management. ASBO serves as the agency’s leading advocate for small business regulatory issues through its partnership with the EPA Regional Small Business Liaisons, state Small Business Environmental Assistance Programs (SBEAP) nationwide and hundreds of small business trade associations. These partnerships provide the information and perspective the EPA needs to help small businesses achieve their environmental goals.

The Small Business Ombudsman is a comprehensive program that provides networks, resources, tools, and forums for education and advocacy on behalf of small businesses.¹⁷⁸ The program also assists the EPA’s program offices with analysis and consideration of the impacts of its regulatory actions on small businesses, helps identify less burdensome alternatives, and leads the EPA’s implementation of the Regulatory Flexibility Act (RFA), as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA). Under the RFA or SBREFA, the EPA evaluates the effects of its regulations on small businesses and engages with small entity representatives, the Office of Management and Budget and the Small Business Administration to help them understand the potential impacts of rules and identify less burdensome alternatives for rulemakings that may affect small businesses.

The core program functions include participating in the regulatory development process, operating and supporting the program’s hotline and homepage, participating in the EPA’s program and Regional Offices’ small business-related meetings, and supporting internal and external small business activities. The program helps small businesses learn about new actions and developments within the EPA and helps the agency learn about the concerns and needs of small businesses. The program also provides technical assistance through the ASBO in the form of workshops, conferences, hotlines, and training forums designed to help small businesses become better environmental performers.

¹⁷⁸For more information: <http://www.epa.gov/resources-small-businesses/asbestos-small-business-ombudsman>.

FY 2017 Activities and Performance Plan:

In FY 2017, the Small Business Ombudsman program will:

- Assist the EPA's programs and Regional Offices in promoting new compliance assistance tools and carrying out EPA's Next Generation Compliance Strategy, in particular as it pertains to the small business community. May explore contractor opportunities to support this effort.
- Make a visible difference in EPA and the small business community by expanding the quality and efficiency of technical and regulatory assistance. ASBO is implementing a new internal and external outreach program focused on building a knowledge base of EPA and small business community needs and impacts; unifying and coordinating programs and activities by sharing information and leveraging resources; and engaging and expanding small business involvement in the regulatory process.
- Support and promote the EPA's Small Business Strategy by encouraging small businesses, states, and trade associations to comment on the EPA's proposed regulatory actions, as well as providing updates on the agency's rulemaking activities in the monthly Smallbiz@EPA electronic bulletin;
- Launch a new era of state and local partnerships by working with state SBEAPs and small business trade associations to improve the environmental performance of small businesses. ASBO will continue monitoring its grant issued to the State of Kansas to establish a website which serves as an essential conduit of both communication and education for state small business environmental assistance programs and the small business community.
- Serve as the agency's point of contact for the Small Business Paperwork Relief Act¹⁷⁹ by coordinating efforts with the agency's program offices to further reduce the information collection burden for small businesses with fewer than 25 employees;
- Assist in carrying out the EPA's implementation of the RFA, including Small Business Advocacy Panels for regulations that might have a significant and potentially adverse economic impact on a substantial number of small entities; and
- Support the EPA's efforts to limit potential adverse impacts on small entities by assisting program offices in characterizing the possible impacts of its regulations and considering alternative requirements.

In this program in FY 2017, resources of \$1.36 million and 2.4 FTE support the Small Business Programs. The remaining \$0.98 million and 2.5 FTE support activities related to the Small Business Regulatory Enforcement Fairness Act.

¹⁷⁹ For more information: <https://www.whitehouse.gov/sites/default/files/omb/assets/omb/inforeg/sbpra-hr327.pdf>.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$305.0) This change to fixed and other costs is an increase due to the recalculation of base workforces costs for existing FTE due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$53.0) This program change reflects an increase of resources for business process changes within the EPA's headquarters and Regional Offices. The ASBO program will focus its resources on a robust outreach strategy to strengthen the current network between the agency, states, Tribal, and local governments for providing regulatory information and compliance assistance to small businesses. This same network will be used for obtaining sufficient small business input so that EPA can better design programs and regulations to address compliance with its current environmental goals.

Statutory Authority:

Toxic Substances Control Act (TSCA); Clean Air Act; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Small Minority Business Assistance

Program Area: Information Exchange / Outreach

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$1,686.6</i>	<i>\$1,670.0</i>	<i>\$2,015.0</i>	<i>\$345.0</i>
Total Budget Authority / Obligations	\$1,686.6	\$1,670.0	\$2,015.0	\$345.0
Total Workyears	9.6	8.9	8.9	0.0

Program Project Description:

The EPA's Office of Small Business Programs (OSBP) manages the agency's Small and Minority Business Assistance programs, which include the Direct Procurement program and the Disadvantaged Business Enterprise (DBE) program. This program provides technical assistance to small businesses and agency procurement professionals to ensure that small, disadvantaged, women-owned, Historically Underutilized Business Zone (HUBZone), and service-disabled veteran-owned small businesses (SDVOSBs) receive a fair share of the EPA's procurement dollars and grants. This program enhances the ability of these entities to participate in the protection of human health and the environment. The functions of the program involve accountability for evaluating and monitoring contracts, grants, and cooperative agreements entered into by the EPA's headquarters and Regional Offices. Through these efforts, the agency ensures its procurement and grant practices comply with federal laws and regulations regarding the utilization of small and disadvantaged businesses.

FY 2017 Activities and Performance Plan:

In FY 2017, under the agency's Small and Minority Business Assistance Programs, small and disadvantaged business procurement experts will provide training, technical assistance, and consultation to headquarters and Regional Office personnel and small business owners. This training will ensure that Small Disadvantaged Businesses (SDBs), Women-Owned Small Businesses (WOSBs), HUBZone firms, and SDVOSBs receive a fair share of the EPA's procurement dollars, based on goals negotiated with the Small Business Administration (SBA), and national goals set by statute.

In FY 2017, the EPA's Small and Minority Business Assistance Program will continue implementing applicable provisions of the 2010 Small Business Jobs Act and the WOSB regulation

enacted in 2011.¹⁸⁰ The EPA will work to eliminate contract bundling to help ensure opportunities for America's small business community.¹⁸¹ The EPA will place emphasis on implementing the WOSB rule, authorizing contracting officers to restrict competition to eligible WOSBs for certain federal contracts in industries that the SBA has determined are underrepresented or substantially underrepresented in federal procurement. The agency will emphasize contracting with SDVOSBs, as mandated by Executive Order 13360,¹⁸² which requires increased federal contracting opportunities for this group of entrepreneurs. For both the WOSB and SDVOSB programs, the agency will continue to provide training of its acquisition professionals on the utilization of the programs; conduct targeted outreach and training to the SDVOSB and WOSB communities on how to navigate the EPA's procurement process; conduct specific reviews of the agency's procurements to ensure the utilization of both programs; and provide technical assistance to the EPA's program offices to assist in the identification of SDVOSBs and WOSBs for their procurement needs.

In FY 2017, the EPA's Small and Minority Business Assistance program will develop and implement a new agencywide electronic system to facilitate the acquisition forecasting process, a listing of expected procurement opportunities for goods and/or services. This process involves all agency personnel engaged in managing the acquisition process to determine requirements, budget, strategic planning, small business considerations, technical data requirements, legal concerns, and contract management. The current process is completely paper-driven and time consuming. An electronic system will allow for the direct input of acquisition forecasts from all agency program offices and Regional Offices into one database for a more thorough analysis and greater utility.

In FY 2017, the EPA's Small and Minority Business Assistance program will lead the agency's outreach program for small and Native American owned business in connection with the uranium mine settlement clean-up project in the Navajo Nation. As the agency's experts on small business outreach and inclusion, the program was asked by the Regional Offices leading the Navajo clean-up project to develop and implement a long term and continuous outreach strategy. The strategy will ensure both native owned and small business participation in contracts supporting the cleanup effort which may include environmental remediation, construction, testing, and general consulting services. The program will work with other agencies, as needed, to develop training programs and plan industry/outreach events to ensure that small and Native American owned businesses are adequately equipped to compete for the contracts that will result from this monumental effort.

As a result of the Supreme Court's decision in *Adarand v. Peña*, 115 S. Ct. 2097 (1995),¹⁸³ the EPA promulgated the Disadvantaged Business Enterprise (DBE) Rule (40 CFR Part 33).¹⁸⁴ The EPA's implementation of the DBE Rule requires that its grant recipients perform good faith efforts to ensure that DBEs have an opportunity to compete for contracts funded by the EPA's assistance agreements. The DBE Program has a statutory goal of ten percent utilization of Minority Business Enterprises/Women-Owned Business Enterprises for research conducted under the Clean Air Act Amendments of 1990, as well as a statutory eight percent goal for all other programs. The DBE program encourages the agency and its financial assistance recipients to meet these indirect

¹⁸⁰ For more information: https://www.sba.gov/about-sba/sba_initiatives/small_business_jobs_act_of_2010 and <https://www.sba.gov/content/women-owned-small-business-program>.

¹⁸¹ For more information: <https://www.sba.gov/bundling>.

¹⁸² For more information: https://www.sba.gov/offices/headquarters/ogc_and_bd/resources/5526.

¹⁸³ For more information: <https://www.utexas.edu/vp/irla/Documents/Adarand%20Constructors%20Inc%20v%20Peña.pdf>.

¹⁸⁴ For more information: "<http://www.epa.gov/osbp/pdfs/dbe/final%20dbe%20rule.pdf>".

procurement goals. This includes: training the EPA grant personnel on the scope and utilization of the DBE Program; providing technical assistance and counseling to the EPA grant recipients on requirements of the DBE Program; targeting outreach efforts to encourage minority- and women-owned businesses to seek contract opportunities funded by the EPA's grants; and monitoring the program through compilation and analysis of required grantee DBE program reports. These efforts will enhance the ability of America's small and disadvantaged businesses to help the agency protect human health and the environment.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$63.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs for existing FTE due to adjustments in salary, essential workforce support, and benefits costs.

- (+\$282.0) These program changes enhance related capabilities, specifically including:
 - Increased support for DBE Rule activities and enhanced technical assistance to small businesses.
 - Increased support of the Direct Procurement Program for outreach and training initiatives in Navajo Nation to increase the participation of Native American businesses.
 - Increased support for the development and implementation of a new agencywide electronic system to facilitate the acquisition forecasting process.

Statutory Authority:

42 U.S.C. § 4370d; Clean Air Act; Superfund Amendments and Reauthorization Act of 1986; Small Business Administration Reauthorization and Amendment Act of 1988.

State and Local Prevention and Preparedness

Program Area: Information Exchange / Outreach

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Promote Sustainable and Livable Communities

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$17,942.3</i>	<i>\$15,318.0</i>	<i>\$23,735.0</i>	<i>\$8,417.0</i>
Total Budget Authority / Obligations	\$17,942.3	\$15,318.0	\$23,735.0	\$8,417.0
Total Workyears	64.3	74.2	74.2	0.0

Program Project Description:

The EPA’s State and Local Prevention and Preparedness program has responsibility for the national regulatory framework to prevent, prepare for, and respond to catastrophic accidental chemical releases at industrial facilities throughout the United States. Accidents at chemical facilities have resulted in injury, death, severe environmental damage, and great financial loss. Accidents reported to the EPA since the beginning of calendar year 2005 have resulted in approximately 62 deaths, over 2,056 injuries, nearly 368,000 people sheltered in place, and more than \$2.8 billion in on-site and off-site damages. States and communities often lack the capacity needed to prevent, prepare for, and /or respond to these emergencies. Only 9 states and 5 counties have asked for and received delegated authority for this program. The EPA therefore plays a significant and vital role in working with facilities, emergency planners, first responders, and local communities to prevent and prepare for the release of hazardous substances.

This program includes the Clean Air Act Section (CAA) 112(r) Risk Management Program (RMP) and the Emergency Planning and Community Right-to-Know Act (EPCRA) program. The purpose of these programs is to prevent devastating accidents such as the 1984 accident at Union Carbide in Bhopal India, which resulted in thousands of deaths and at least 200,000 injuries. In the U.S., significant chemical accidents include those in Pasadena, TX in 1989 and Texas City, TX in 2005 which resulted in hundreds of injuries and dozens of deaths and, in recent years, accidents such as the 2013 explosion in West, Texas that resulted in the death of 12 firefighters, 2 members of the public, and more than 300 injuries.

The EPA’s RMP and EPCRA programs provide the foundation for community engagement, facility hazard response planning, and risk reduction by requiring chemical facilities to implement certain measures to prevent and mitigate the risk of accidental releases, develop and exercise plans for responding to a release, and report data to the community, emergency planners, and first responders to increase the understanding of potential chemical hazards. Taken together, the RMP and EPCRA regulations establish a structure, comprised of the federal, state, local, and Tribal partners who can work together with industry to protect local communities and the environment from chemical risks through advanced technologies and improved safety systems to maximize the effectiveness of prevention and preparedness at chemical facilities.

Under Section 112(r) of the CAA, the EPA's regulations require that facilities handling more than a threshold quantity of certain extremely hazardous substances must implement a Risk Management Program. The RMP requires regulated chemical facilities to conduct the following:

- Perform a hazard assessment that estimates the harmful effects of serious chemical releases from the facility and describes the facility's history of serious accidents;
- Implement accident prevention measures such as using written safe operating procedures, maintaining the mechanical integrity of chemical process equipment, safely managing process and equipment changes, investigating process incidents, and other measures that aim to prevent serious accidents;
- Implement an emergency response program that minimizes the harmful effects of any chemical release that may occur; and
- Prepare and submit a risk management plan to the EPA. Risk management plans are collated within a single national database that contains current and historical chemical hazard information for approximately 12,500 U.S. chemical facilities.

The risk management plan describes the approach the facility is taking to prevent and mitigate chemical accidents. The plan addresses the hazards of the chemicals used by the facility, the potential consequences of worst case and other accidental chemical release scenarios, the facility's five year accident history, the chemical accident prevention program in place at the site, and the emergency response program used by the site to minimize the impacts on the public and environment should a chemical release occur.

Facilities are required to update their risk management plans at least once every five years or sooner if major changes are made at the facility. The EPA provides RMP data upon request to state and local emergency planning entities and to other federal agencies, such as the Department of Homeland Security (DHS), the Occupational Safety and Health Administration (OSHA), and the U.S. Chemical Safety Board. The EPA's RMP regulation works together with DHS's Chemical Facility Anti-Terrorism Standards (CFATS) rule to cover all potential causes of a hazardous substance release. CFATS addresses facility security and acts of malfeasance while the RMP focuses on processes, equipment, and accidental events.

After the RMP regulation was passed in 1996, there was a significant decrease in accidents reported at RMP facilities. A reportable accident under the RMP requirements is defined as the release of a regulated substance over the threshold quantity which results in an on-site deaths, injuries, or significant property damage or environmental damage, evacuations, or sheltering in place. The initial reduction can be attributed to a number of factors, including the education of facilities on those actions that can be taken to prevent releases. In recent years, the pace of improvements in the accident rate has been leveling off. Chemical accidents continue to occur at facilities which are both regulated and not regulated by RMP. Thus, the agency will strive to continue its oversight activities in conducting inspections at facilities posing the greatest risk and providing technical assistance to further reduce chemical accidents. Additional inspection and technical assistance capacity can help further strengthen chemical facility safety efforts.

The EPA has increased inspection activities at high-risk facilities, made it possible to submit risk management plans online, and provided specialized training for RMP inspectors. Specialized

training will include industry sector analysis of priority facilities and coordination across regions on targeted facilities. These activities, along with consistent outreach with regulated communities, advancing technologies, and improved safety systems, are intended to help maximize the effectiveness of prevention and preparedness at chemical facilities.

The EPA targets 460 RMP inspections per year, however this is only a fraction of the universe of regulated facilities that are subject to RMP requirements. RMP facilities contain the largest identified stockpiles of highly toxic and flammable industrial chemicals in the United States. The agency has identified approximately 12,500 RMP facilities nationwide. These facilities reported, on average, about 237 accidents per year over the time period 2000-2014 (the latest year with the most complete data set), compared to an average of 420 per year for the years 1996-1999. Of the 12,500 RMP facilities, approximately 1,900 facilities have been designated as “high-risk” based upon their accident history, quantity of chemicals on site, or proximity to large residential populations. The agency places special focus on high-risk RMP facilities because of their potential for causing greater harm to the public and environment in the event of an accident. Impact from accidents include deaths, injuries, property and environmental damage, shelter-in-place, and evacuations. Inspections at high-risk facilities generally require more resources, including technical experts and time, due to their complex processes, larger scale, and higher potential risk.

Under EPCRA, State Emergency Response Commissions (SERCs), Tribal Emergency Response Commissions (TERCs), and Local Emergency Planning Committees (LEPCs) were formed to serve as the infrastructure for local emergency planning and to inform the public about chemicals in their community. In order to accomplish this goal, the requirements of EPCRA stipulate that facilities provide information to the SERCs and LEPCs about the chemicals they produce, use, and store. LEPCs use this information to develop local emergency response plans and work with facilities to reduce chemical risks and improve chemical facility safety, as well as make available to the public information on the chemicals risks in their community. While LEPCs originally received federal funding in the 1980’s, LEPCs are now dependent upon state and local support. This has caused a significant variability in the capabilities and capacities of LEPCs throughout the nation. The EPA has made a concerted effort over the last two years to engage with state, local, Tribal, and territorial partners to strengthen SERCs, TERCs, and LEPCs and intends to further expand this effort in FY 2017. Stronger, more consistent direct engagement can further support chemical facility safety efforts throughout the nation.

On August 1, 2013, the White House issued Executive Order (EO) 13650 on Improving Chemical Facility Safety and Security, after the disaster in West, Texas. The EO serves to enhance the safety and security of chemical facilities and reduce risk associated with hazardous chemicals to owners and operators, workers, and communities. The Chemical Facility Safety and Security Working Group, established by Executive Order 13650, released the status report entitled *Actions to Improve Chemical Facility Safety and Security – A Shared Commitment*¹⁸⁵ on June 6, 2014, summarizing the Working Group's progress, focusing on actions to date, findings, lessons learned, challenges, and short and long-term priority actions that include plans to expand technical assistance and outreach to industry, states, and local communities on approaches to preventing, preparing, and responding to risks at chemical facilities.

¹⁸⁵ For additional information, visit: <https://www.osha.gov/chemicalexecutiveorder/index.html>.

Through listening sessions and meetings with various stakeholders during the EO implementation process, the EPA identified several areas of focus for improving enhancing the SERC and LEPC infrastructure and improving chemical facility safety. Those areas include: enhancing the Computer-Aided Management of Emergency Operations (CAMEO) system to better support local planners and responders; modernize the RMP regulations to expand prevention requirements; improve facility coordination with LEPCs; and improve Federal, State, Tribal, and local coordination on all aspect of chemical facility safety including training, inspection, and data sharing.

The EPA initiated work within base resources on several of the actions identified in the status report action plan to expand support for local communities. These efforts include initiation and further development of tools including enhancement of software applications that provide crucial information to front-line chemical emergency workers, technical support to strengthen the state and local infrastructure of SERCs/TERCs and LEPCs/TEPCs, and engagement with key stakeholders to discuss options for modernizing regulations, guidance, and policy to enhance chemical safety at facilities including drafting a proposed rule to address key options to further chemical facility safety under the Risk Management Program.

FY 2017 Activities and Performance Plan:

The FY 2017 State and Local Preparedness program requests an increase of \$8.4 million from the FY 2016 Enacted Budget. This critically needed increase will provide crucial resources to expand engagement with facilities, emergency planners, first responders, and communities to enhance the safety of communities adjacent to the 12,500 chemical facilities located across the country. While the agency has initiated some work within current resources, additional funding is necessary to improve chemical facility safety and security and implementation of the E.O. 13650. This increase will support compliance education for the first phase of the RMP regulatory changes, outreach efforts to engage LEPCs, data sharing, and inspections.

This increase will allow the EPA to focus attention on the most significant vulnerabilities, in terms of scale and potential risk, for the following activities:

- Provide national coordination for chemical accident prevention and emergency response planning program policy, inspections, compliance, and enforcement;
- Provide needed enhancements to the Computer-Aided Management of Emergency Operations (CAMEO) system, which will support SERCs and LEPCs;
- Conduct training for the EPA and state implementing agency RMP and EPCRA inspectors;
- Identify facilities that did not file risk management plans by comparing the list of current RMP facilities against other available data sources;
- Provide technical assistance to communities, including working with state and local governments to provide outreach and training on EPCRA and RMP and to work with facilities to improve the safety and security of chemical facilities and reduce risks to workers and communities; and
- Conduct RMP and EPCRA compliance inspections at regulated facilities.

As part of its ongoing operations, the EPA will maintain the RMP database, which is the nation's premier source for information on chemical process risks, and will share data with other federal, state, Tribal, and local partners that need the best and latest information on hazardous chemical facility risks. The EPA will coordinate with DHS to periodically analyze the risk management plan and CFATS data in order to identify chemical facilities that may not have provided all required information or may be non-compliant with federal requirements. The EPA will review and enhance training for RMP and EPCRA inspectors and will work with federal and state partners to cross-train inspectors in order to leverage the information collected.

In FY 2017, the EPA will support the EO on Improving Chemical Facility Safety and Security by:

- Coordinating with DHS, the OSHA, and other interagency partners on activities associated with EO 13650;
- Implementing and further modernizing the RMP regulations to enhance the federal regulatory framework for prevention and mitigation of chemical accidents. This could include developing and revising guidance and policies to better implement the RMP and EPCRA programs;
- Developing training for SERCs/LEPCs on the key requirements under EPCRA; and
- Developing, initiating and delivering training to aid with expanded outreach and planning for local communities, planners, and responders. This will assist local planners and first responders on how to use the risk information available to them to develop and exercise a plan. The focus will include coordinating work with facilities to reduce the risk and scheduling regular drills for potential chemical risks; to communicate to the public what they need to do if an accident occurs; and maintain a dialogue with facilities.

Performance Targets:

Measure	(CH2) Number of risk management plan inspections conducted.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	400	560	530	500	460	460	460	460	Inspections
Actual	618	630	652	539	466	376			

The funding level requested will enable the EPA to conduct 460 RMP facility inspections in FY 2017. Of these inspections, 36 percent will be conducted at high-risk facilities. The agency has reduced the target from previous years due to increased complexity of facilities inspected. High-risk facilities require more time and resources to inspect, but have the potential to yield greater protection of human health and the environment.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$908.0) This change to fixed and other costs reflects the recalculation of base workforce costs for existing FTE due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$7,509.0) This program change reflects an increase in resources to improve chemical facility safety and security and support implementation of EO 13650. This increase enhances related program capabilities, specifically including:

- \$1,000.0 to enhance the CAMEO system to include the development of a CAMEO Chemicals app and EPCRA Data Viewer app for real time use on mobile phones and tablets for SERCs and LEPCs;
- \$1,500.0 to finalize the RMP rule and conduct first phase compliance technical assistance and outreach in accordance with the action plan developed under the EO;
- \$4,000.0 to develop, initiate and deliver training to local communities, SERCs/LEPCs, first responders, and inspectors to build capacity and guidance on risk mitigation and emergency planning; and
- \$1,000.0 to assist with high risk facility RMP inspections.

Statutory Authority:

Emergency Planning and Community Right-to-Know Act (EPCRA); Clean Air Act, as amended by the Chemical Safety Information, Site Security, and Fuels Regulatory Relief Act, § 112(r).

TRI / Right to Know

Program Area: Information Exchange / Outreach

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$14,639.3</i>	<i>\$13,882.0</i>	<i>\$14,834.0</i>	<i>\$952.0</i>
Total Budget Authority / Obligations	\$14,639.3	\$13,882.0	\$14,834.0	\$952.0
Total Workyears	39.5	43.5	43.5	0.0

Program Project Description:

The EPA's success in carrying out its mission to protect human health and the environment is contingent on collecting timely, high-quality and relevant information. The Toxics Release Inventory (TRI) program¹⁸⁶ supports the EPA's mission by annually publishing, for the public, release and other waste management (e.g., recycling) and pollution prevention data on over 650 toxic chemicals from approximately 20 thousand industrial and federal facilities. TRI data help inform communities and other stakeholders about toxic chemical releases and other waste management and pollution prevention practices by facilities in their neighborhoods and across the nation. It also can be used to help ensure facility compliance with environmental laws and regulations, as well as promote pollution prevention and source reduction activities by facilities. Due to the broad scope and timeliness of the data, the TRI Program is a premiere source of toxic chemical release data for communities, non-governmental organizations, industrial facilities, academia, and government agencies.

With the implementation of the rule on "Electronic Reporting of Toxics Release Inventory Data,"¹⁸⁷ effective January 21, 2014, facilities are required to report non-trade secret TRI data to the EPA using electronic software provided by the agency. Electronic reporting of TRI data provides numerous benefits to the EPA, the regulated community and the public. Electronic reporting delivers transparent, readily available and understandable data more quickly to the public while decreasing the time needed for facilities to complete the reporting form; this decreases the cost to the EPA and the regulated community.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to enhance the regulatory foundation of TRI to ensure that communities have access to timely and meaningful data on toxic chemical releases and other waste management and pollution prevention activities at facilities. As part of this effort, the TRI program will continue to clarify toxic chemical reporting requirements, improve the reporting experience, explore opportunities to use this valuable information, and share pollution prevention approaches with industry.

¹⁸⁶ Please see: <http://www.epa.gov/tri/>.

¹⁸⁷ Please see: <http://www.gpo.gov/fdsys/pkg/FR-2013-08-27/pdf/2013-20744.pdf>.

In FY 2017, the TRI program will continue to provide facilities with an online reporting application, TRI-MEweb, to facilitate the electronic preparation and submission of TRI reports using the EPA’s Central Data Exchange (CDX). CDX manages access and authentication services for TRI. In particular, it provides a third-party authentication for reporting facilities using LexisNexis. In addition, TRI data collected by the EPA are shared with states who have an active node on CDX and are partners of the TRI Data Exchange (TDX). Facilities located in states that participate in this exchange, submit reports to the EPA, through CDX. The data are then downloaded by the states or transferred to their nodes using TDX. The EPA will continue to encourage greater participation in the TDX by states, tribes and territories, thereby reducing reporting burdens on TRI facilities.

In FY 2017, the TRI program will continue to conduct at least 600 data quality checks to help ensure the accuracy and completeness of the reported data. The TRI program also will provide compliance assistance and enforcement support to the EPA’s Enforcement and Compliance Assurance programs by supplying facility target lists developed through the comparison of TRI reporting with facility reporting to other EPA programs (e.g., air permits required by the Clean Air Act). In FY 2017, the TRI program also will continue to make the data available to the public within weeks after the July 1st reporting deadline. The data will be available as downloadable data files (via the TRI website and Data.gov) and through online analytical tools such as Envirofacts and TRI Analyzer.

The TRI program will continue to publish the annual TRI National Analysis, describing relevant trends in toxic chemical releases and other waste management; industry sector profiles and parent company analyses; and TRI information reported from facilities in specific urban communities, large aquatic ecosystems, Indian country, and Alaska Native Villages. The TRI program will continue to foster stakeholder discussions and collaborations in analyzing and using the TRI data, including with such stakeholders as industry, government, academia, non-governmental organizations, and the public.

Performance Targets:

Measure	(998) EPA's TRI program will work with partners to conduct data quality checks to enhance accuracy and reliability of environmental data.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target				500	500	600	600	600	Quality Checks
Actual				600	600	600			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$1,085.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$133.0) This program change reflects a reduction in contractual costs for producing TRI annual reports as a result of the 2014 TRI Electronic Reporting Rule.

Statutory Authority:

Emergency Planning and Community Right-to-Know Act (EPCRA), § 313; Pollution Prevention Act of 1990 (PPA), § 6607.

Tribal - Capacity Building

Program Area: Information Exchange / Outreach

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Strengthen Human Health and Environmental Protection in Indian Country

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$13,871.6</i>	<i>\$14,385.0</i>	<i>\$15,502.0</i>	<i>\$1,117.0</i>
Total Budget Authority / Obligations	\$13,871.6	\$14,385.0	\$15,502.0	\$1,117.0
Total Workyears	79.5	87.9	87.9	0.0

Program Project Description:

The EPA's American Indian Environmental Program leads the agency-wide efforts to ensure environmental protection in Indian country. Please see <http://www.epa.gov/tribal> for more information.

Under federal environmental statutes, the EPA has responsibility for protecting human health and the environment in Indian country. Under the EPA's 1984 Indian Policy¹⁸⁸, the Agency works with federally recognized tribes (tribes) on a government-to-government basis in recognition of the federal government's trust responsibility to tribes to implement federal environmental programs. In the 1984 Indian Policy, the "EPA recognizes tribes as the primary parties for setting standards, making environmental policy decisions, and managing programs for reservations consistent with agency standards and regulations." In the absence of a program delegation to a tribe, EPA directly implements the program.

Overall, the Agency has made steady progress towards strengthening human health and environmental protection on tribal lands; however, we continue to face significant challenges that far exceed the EPA investments. While the needs and diversity of issues grow in Indian country, the EPA's investment has struggled to keep pace, and the level of Tribal investments have lagged behind State investments.

Ongoing development of agency guidelines to define the EPA's direct implementation responsibilities in Indian country is helping to prioritize the EPA's resources to address the most important environmental issues.

FY 2017 Activities and Performance Plan:

In FY 2017, the Agency will further its priority of strengthening tribal partnerships and continue to work toward its goal of building tribal capacity through a number of mechanisms, including:

¹⁸⁸ EPA Policy for the Administration of Environmental Programs on Indian Reservations.-
<http://www.epa.gov/tribalportal/pdf/indian-policy-84.pdf>.

Capacity Building: The EPA continues to provide technical assistance to encourage development of tribal capacity to implement federal environmental programs through several means, primarily the “treatment in a manner similar to a state” (TAS) process as well as through the use of the Direct Implementation Tribal Cooperative Agreement (DITCA) authority. To date, 105 TAS program delegations to tribes have been approved, including 12 with compliance and enforcement authority. The EPA also has awarded 25 DITCAs.

During FY 2017, the Agency is continuing its targeted technical assistance and support in response to requests from Tribal governments to help them build capacity to acquire TAS status for environmental programs. The agency is continuing the progress on reviewing and revising how it measures the progress tribes have made to develop and implement environmental protection programs in Indian country. This effort will build on the 2013 Indian General Assistance Program (GAP) Guidance¹⁸⁹ that is designed to improve Tribal capacity development milestones. In FY 2017, the EPA will work toward the development of an improved set of performance measures to assess and report on Tribal environmental program capacity. This new scheme will use modified existing data collection systems.

Tribal EcoAmbassadors: In FY 2017, the agency will continue to support environmental research projects with Tribal Colleges and Universities that will expand capacity to address issues of concern in Tribal communities. These Tribal EcoAmbassador projects¹⁹⁰ have benefitted the professors and students involved, while demonstrating an ability to focus resources and leverage support within Tribal communities. This priority effort has enabled the EPA to build Tribal environmental capacities of future environmental professionals and focus on community-based environmental issues that were otherwise not being addressed.

Indian Environmental General Assistance Program (GAP) Capacity Building Support: GAP grants to Tribal governments help build the basic components of a Tribal environmental program. In May 2013, the EPA published the new “*Guidance on the Award and Management of General Assistance Agreements for Tribes and Intertribal Consortia.*” In FY 2017, the EPA will continue to implement this Guidance to enhance the EPA-Tribal partnerships supported by GAP by establishing a framework for joint strategic planning between the agency and the tribes, identifying mutual responsibilities for environmental protection, and targeting resources to build Tribal environmental program capacities. The agency will work with tribes to develop the EPA-Tribal Environmental Plans (ETEPs) that reflect intermediate and long-term goals for developing, establishing, and implementing environmental protection programs and will link these goals with GAP work plans. ETEPs help tribes and the EPA identify mutual roles and responsibilities for addressing particular environmental priorities and issues, focusing on joint planning and priority-setting, and increasing flexibility to direct resources to the most pressing environmental problems and to measure the results. The EPA also will use baseline capacity data for media-specific Tribal environmental protection programs to inform development of new performance measures for Tribal capacity. In addition, staff training on the development of ETEPs and use of the Guidance will be an important continuing focus in FY 2017.

¹⁸⁹ <http://www.epa.gov/tribalportal/GAP-guidance-final.pdf>.

¹⁹⁰ Please refer to: <http://www.epa.gov/tribal/tribal-ecoambassadors-program> for further information.

GAP Online: In addition to the improved measurement scheme noted above, the EPA will continue to use GAP Online, an internet-based database that assists tribes and the EPA in developing, reviewing, and archiving GAP work plans and progress reports. The EPA and tribes use the database to negotiate and track progress with individual grantees and as an easily accessible record to help mitigate the negative impacts from relatively high rates of staff turnover in many Tribal environmental departments. GAP Online will provide enhanced capabilities for the EPA to assess the levels of Tribal capacity development in order to align with specific media program development indicators consistent with the GAP Guidance.

Tribal Consultation: In 2011, the EPA released its “*Policy on Consultation and Coordination Policy with Indian Tribes*,”¹⁹¹ consistent with the President’s 2009 Memorandum on implementing E.O. 13175. The Policy builds on the EPA’s 1984 Indian Policy and reflects the Administration’s commitment to strengthen Tribal partnerships by establishing clear agency standards for the consultation process, which promote consistency and coordination. In FY 2017, the EPA will continue to support the agency’s web-based Tribal Consultation Opportunities Tracking System (TCOTS). TCOTS is a publically accessible database used to communicate upcoming and current EPA consultation opportunities for Tribal governments. The system provides a management, oversight and reporting structure that helps ensure accountability and transparency. Since finalizing the Policy in 2011, the EPA has provided 340 consultation opportunities to Tribal governments.

National Tribal Operations Committee: Nineteen Tribal government leaders and the agency’s Senior Leadership Team serve on the EPA’s National Tribal Operations Committee¹⁹² (NTOC). The Tribal leaders, known as the National Tribal Caucus (NTC), provide recommendations and feedback to the Agency on environmental issues of national significance affecting tribes. In FY 2017, the NTOC will continue to identify new ways of doing business so that we streamline processes, increase availability of existing resources for the most important environmental work, leverage resources, enhance government-to-government partnerships, and reduce administrative burdens.

Interagency and Intergovernmental Collaboration: The EPA will continue to improve its interagency collaboration through the Infrastructure Task Force and with the support of the White House Council on Native American Affairs. In FY 2017, the EPA will continue to work the federal partner agencies and tribes to address the issue of solid waste disposal in Indian country. In FY 2017, the EPA will continue to co-lead a subgroup under the Council to provide tribes with data and information, improve federal collaboration, and assist with climate change adaptation and mitigation efforts. The EPA will continue to explore and expand intergovernmental and interagency partnerships efforts. Currently, the EPA maintains an active government to government relationship with almost all tribes. This network will form the basis for development of further national, regional and topical priorities as determined by the participants.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently, there are no performance measures for this specific program.

¹⁹¹ Please refer to: <http://www.epa.gov/tribalportal/pdf/cons-and-coord-with-indian-tribes-policy.pdf> for further information.

¹⁹² <http://www.epa.gov/tribal/tribal-partnership-groups>.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$207.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$910.0) This program change supports Tribal capacity efforts through developing and implementing joint strategic planning agreements, or EPA-Tribal Environmental Plans (ETEPs), between each tribe and the EPA, providing programmatic support for grants to rural Alaskan communities, implementing required IT data modifications to strengthen management on the over 500 annually awarded GAP grants, and developing improved indicators of environmental program capacity development.

Statutory Authority:

Annual Appropriation Acts; Indian Environmental General Assistance Program Act; PPA; FIFRA; CAA; TSCA; NEPA; CWA; SDWA; RCRA; CERCLA; NAFTA; MPRSA; Indoor Radon Abatement Act; OPA; and additional authorities.

Work within this Tribal Capacity Building Program supports the above authorities, as well as additional statutory authorities that influence environmental protection and affect human health and environmental protection in Indian country.

Program Area: International Programs

US Mexico Border

Program Area: International Programs

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Promote Sustainable and Livable Communities

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$3,503.6	\$3,063.0	\$4,760.0	\$1,697.0
Total Budget Authority / Obligations	\$3,503.6	\$3,063.0	\$4,760.0	\$1,697.0
Total Workyears	17.5	14.7	14.7	0.0

Program Project Description:

The two thousand-mile border between the United States and Mexico is one of the most complex and dynamic regions in the world, and where the benefits of the EPA's international programs are perhaps most apparent. This region accounts for three of the ten poorest counties in the U.S., with an unemployment rate 250-300 percent higher than the rest of the United States.¹⁹³ In addition, over 430,000 of the 14 million people in the region live in 1,200 colonias,¹⁹⁴ which are unincorporated communities characterized by substandard housing and unsafe drinking water. Still, the 1983 La Paz Agreement¹⁹⁵, and the adoption of the Border 2012 program in 2003, have gone a long way to protect and improve the health and environmental conditions along a border that extends from the Gulf of Mexico to the Pacific Ocean.

The Border 2020 program, like its predecessor, emphasizes local priority-setting, focuses on measurable environmental results, and encourages broad public participation. Border 2020 builds on the 2012 program¹⁹⁶ work, which includes removing more than 13 million scrap tires from the Border, establishing drinking water connections for more than 54,000 homes and adequate wastewater connections for over half a million homes; in addition to highlighting regional areas where environmental improvements are most needed, establishing thematic goals supporting the implementation of projects, considering new fundamental strategies, and encouraging the achievements of more ambitious environmental and public health goals.

The Border 2020 program identifies five long-term strategic goals to address the serious environmental and environmentally-related public health challenges, including the impact of transboundary pollution in the border region. These goals include: reducing air pollution; improving access to clean and safe water; promoting materials management, waste management and clean sites; enhancing joint preparedness for environmental response; and enhancing compliance assurance and environmental stewardship.

¹⁹³ <http://www.nmsu.edu/~bec/BEC/Readings/10.USMBHC-TheBorderAtAGlance.pdf>.

¹⁹⁴ http://www.borderhealth.org/border_region.php.

¹⁹⁵ <http://www.epa.gov/Border2012/docs/LaPazAgreement.pdf>.

¹⁹⁶ http://www2.epa.gov/sites/production/files/documents/b2012closeout_eng.pdf.

The EPA and the Mexican Environment Secretariat (SEMARNAT) will continue to closely collaborate with the 10 border states (four U.S. / six Mexican), 26 U.S. federally-recognized Indian tribes, and local communities in prioritizing and implementing projects that address their particular needs.

Note: The border water and wastewater infrastructure programs are described in the State and Tribal Assistance Grants (STAG) appropriation, Infrastructure Assistance: Mexico Border Program.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to focus on air pollution reductions in binational airsheds, work on reducing greenhouse gas emissions through energy efficiency and alternative or renewable energy projects, and by FY 2018, maintain effective air quality monitoring networks and timely access to air quality data along the border region. Several border sister cities do not yet meet health-based air quality standards, especially for particulate matter and/or ozone, resulting in negative effects on public health, including higher incidence rates for asthma and increased health-related school absences for children in the region.

The EPA and SEMARNAT will build on the successful air quality work conducted thus far, which has resulted in: complete greenhouse gas emissions inventories for each Mexico border state; mandatory vehicle-smog checks in Baja, California that are expected to reduce vehicle emissions by 12 to 24 percent annually, a significant decrease in pollutants, and improved public health. In addition, building upon over 20 years of binational air quality success within the New Mexico, Texas, and Chihuahua shared air basin, local coordinated efforts will advance efforts to address intensive mobile sources of air pollution in two designated Border cities. In efforts to reduce vehicle emissions, especially from older vehicles that have a significant adverse air quality impact from higher concentrations of particulate matter, carbon monoxide and ozone, a Vehicle Emissions Inspection Station (similar to U.S. smog check program) will be established in at least two Mexican border cities. In accordance with Mexico's Environmental requirement, used vehicles need to comply with exhaust emissions standards. The EPA will assist in establishing emissions testing equipment and help determine whether imported vehicles already meet U.S. emission standards by providing information on U.S. emission requirements for used autos.

In FY 2017, the agency will advance watershed plans, including creating a working sediment transport and floodplain model for the Tijuana River watershed and identifying and quantifying sources of bacteria and other pollutants in the New River watershed. Watersheds in the U.S.-Mexico border region are shared bilaterally, with rivers flowing from one country to the other or forming the international boundary, usually flowing north from Mexico into the U.S. The border region faces significant challenges associated with the shared watersheds exacerbated by high population growth rates and potential impacts of climate change.

Efforts in FY 2017 will continue to focus on drinking water connections which contribute to the reduction of risks from waterborne diseases. Under the Border 2020's water goal, Mexico and the U.S. will promote the increase in the number of homes connected to safe drinking water by to at least 5,000 homes and homes connected to adequate wastewater sanitation to at least 42,000 people; help drinking water and wastewater utilities implement sustainable infrastructure practices to

reduce operating costs, improve energy efficiency, use water efficiently, adapt to climate change; reduce surface water contamination in transboundary waterbodies and watersheds; and provide the public with timely access to water quality data.

In FY 2017, the EPA Border 2020 will lead smaller-scale projects focused on efforts at the community level to promote materials and waste management and clean sites. The program will : 1) develop the capacity to improve collection and recycling of e-waste, plastics and trash; 2) continue the work to reduce and prevent scrap tire piles; 3) develop institutional capacity to clean up contaminated sites; 4) increase capacity to recycle used oil from small businesses by providing compliance educational outreach and by developing used oil collection transfer stations; and 5) implement consultative mechanism in coordination with border states to disseminate information on treatment, storage, and disposal facilities along border. The EPA will collaborate and partner on sustainable waste stream demonstration projects to improve the collection of materials, such as plastic bottles, through public-private partnership programs and infrastructure investments in the border region to avoid costly cleanup efforts. Sustainable priority waste goals can create or increase institutional capabilities to take into account the lifecycle impacts and to support recycling markets for the materials that otherwise would be lost in landfills. Several sustainable materials management demonstration projects in Douglas, Nogales, Sahuarita, and Yuma, Arizona are estimated to collect at least 60,000 lbs. of e-waste.

Additionally, the two countries will work together to enhance joint preparedness for environmental response and facilitate easier transboundary movement of emergency response equipment and personnel by activities, including by updating Sister City Plans with preparedness and prevention and by providing training to emergency responders on preparedness and prevention related activities. Because binational emergency preparedness and response requires extensive cooperation from multiple jurisdictions in Mexico and the U.S, a training curriculum will be developed by a steering committee comprised of key agencies (e.g. the EPA, FEMA, and Proteccion Civil) and training organizations from the U.S. and Mexico. Newly developed training modules will include climate change adaptation training and exercises to better prepare first responders for increased fire, flood, and resultant hazardous materials release events. Finally, Mexico and the U.S. will work to improve information sharing and reporting among enforcement agencies on the movement of hazardous waste across the border using the Toxics Release Inventory (in the U.S.) and the Emissions and Contaminant Transfer Registry (RETC in Mexico).

Performance Targets:

Work under this program supports multiple strategic objectives. Currently, there are no performance measures for this specific program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$17.0) This change to fixed and other costs is a decrease due to the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$1,714.0) This program change reflects an increase for investments in the establishment of additional vehicle inspection check stations, the completion of two additional watershed

plans, and the development of a climate adaptation emergency response training module. Due to the uniqueness of the needs in the region, and in support of the La Paz Agreement and the Border 2020 program, these additional sustainability and capacity building projects are needed to protect the health of the nearly 14 million people living along the U.S.-Mexico border.

Statutory Authority:

In conjunction with the National Environmental Policy Act (NEPA), § 102(2)(F); Clean Air Act, § 103(a); Clean Water Act, § 104(a)(1)-(2); Safe Drinking Water Act (SDWA), §§ 1442(a)(1), 8001(a)(1); Federal Insecticide Fungicide and Rodenticide Act (FIFRA), §§ 17(d), 20(a); Toxic Substances Control Act (TSCA), §10(a); Marine Protection, Research, and Sanctuaries Act (MPRSA), § 203(a)(1).

International Sources of Pollution

Program Area: International Programs

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$6,364.8	\$6,430.0	\$7,329.0	\$899.0
Total Budget Authority / Obligations	\$6,364.8	\$6,430.0	\$7,329.0	\$899.0
Total Workyears	34.1	38.2	38.2	0.0

Program Project Description:

To achieve our domestic environmental objectives, it is important for the U.S. to work with international partners to address international sources of pollution, as well as the impacts of pollution from the U.S. on the global environment. Countries such as Canada, Mexico, Brazil, Russia, China, and regions including Asia, Africa, Latin America, and the Middle East, are necessary partners in addressing these issues. The EPA's work with international organizations such as the United Nations Environment Program (UNEP), the Organization for Economic Cooperation and Development (OECD), and the Arctic Council are essential to successfully addressing the EPA's six priority areas for international action: Building Strong Environmental Institutions and Legal Structures; Combating Climate Change by Limiting Pollutants; Improving Air Quality; Expanding Access to Clean Water; Reducing Exposure to Toxic Chemicals; and Cleaning Up Electronic Waste (E-Waste).

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to engage both bilaterally and through multilateral institutions with the objective of improving international cooperation to address the transboundary movement of pollution. Specifically, the EPA will address air pollution and air quality with international partners that contribute significant pollution to the environment and who are committed to improving their environmental performance. For example, China is improving regional air quality monitoring, planning and control strategies with advice and lessons learned from the United States. In addition, the EPA will facilitate partnerships among smaller emerging economies, where implementation of air quality management programs can avoid increased contribution to transboundary pollutants. For example, Costa Rica—the country with the cleanest diesel fuel in Central America—is seeking to reduce additional emissions from its transportation sector.

In FY 2017, the EPA will continue its work in the Partnership for Clean Fuels and Vehicles (PCFV), a worldwide partnership that has worked to reduce air pollution from the world wide fleet of on-road vehicles. The World Health Organization recognizes air pollution as a major worldwide health threat¹⁹⁷, and vehicles are a significant source of this pollution. The global vehicle fleet is predicted

¹⁹⁷ World Health Organization, Ambient (outdoor) air quality and health; Fact sheet N°313 updated March 2014; <http://www.who.int/mediacentre/factsheets/fs313/en/>.

to grow significantly by calendar year 2050, tripling from calendar year 2010 levels, while the subset of this fleet in the developing world is growing faster than in any other region. Reducing harmful vehicle emissions is critical to protecting human health, as well as mitigating GHG emissions.

The EPA also will continue its efforts to reduce transboundary pollution from ships, which carry most of the goods in international trade. Absent intervention, maritime traffic levels and emissions will increase in the future as global trade increases and as impacts to global climate increases access to Arctic shipping lanes and resources.¹⁹⁸ In Mexico, in particular, shipping comprises a significant source of air pollution, so the EPA will continue to work with Mexico to establish an Emission Control Area (ECA) for ships in its water. The creation of an ECA is estimated to yield vital health and environmental benefits not only in Mexico but also in bordering U.S. states.

The EPA also will continue to provide technical and policy leadership for global and regional efforts to address international sources of harmful pollutants, such as lead in household paint and mercury use and emissions. In November 2013, the U.S. signed and joined the legally binding Minamata Convention on Mercury, meaning that the United States will become a Party when the Convention enters into force. The Convention is directed at reducing mercury pollution, which circulates globally and impacts the United States.¹⁹⁹ The Convention is expected to reach the participation level of 50 Parties needed for entry into force in FY 2017. The EPA will continue to work with international partners and key countries to fully implement the Convention's obligations in order to protect the U.S. population from mercury emissions originating in other countries.

In FY 2017, the EPA will continue to strengthen partnerships to address environmental problems and build capacity in areas such as green growth technologies, urban sustainability, and environmental laws and legal institutions. The EPA will lead U.S. government efforts to advance analytical and policy initiatives at the Organization for Economic Co-operation and Development (OECD). These efforts include: the OECD's Green Growth Strategy and work related to Climate Change, Investment and Trade, and the Environment. The agency also will play a lead role in U.S. interagency efforts to coordinate trade and regulatory issues as well as processes that promote green jobs, sustainable development, and the economic benefits of strengthening environmental protections both domestically and worldwide. For example, the EPA will continue efforts to help promote U.S. environmental technologies overseas, as part of the Administration's Export Promotion Strategy, concentrating specifically on U.S. efforts to expand the U.S. environmental technologies industry, which generates approximately \$319 billion in revenue and supports 1.7 million domestic jobs. The EPA also will continue its work with OECD and the UNEP 10 Year Framework of Programs on Sustainable Consumption and Production (10YFP) to promote U.S. approaches to life cycle assessment, reductions in food waste, consumer access to information, and standards and best practices for sustainable public procurement. In addition, the EPA will continue its work in Brazil to promote opportunities and partnerships for urban infrastructure development that achieves integrated economic, social, and environmental benefits.

In FY 2017, the EPA will continue to strengthen our activities in the Arctic by working with Alaska, Alaska Native Villages (ANVs), federal agencies, academics, and the private sector to build

¹⁹⁸ Ibid.

¹⁹⁹ <http://www.epa.gov/international/toxics/mercury/mnegotiations.html>; www.mercuryconvention.org;

international support for U.S. environmental policy objectives through the Arctic Council. These objectives cover a range of topics, including reducing emissions, exposure to contaminants, and short-lived climate pollutants, as well as developing tools to help ANVs take advantage of opportunities to apply their traditional ecological knowledge (TEK) to operations and policy recommendations related to environmental decision-making, part of EPA's commitment to work effectively with local and indigenous communities across the North American continent. These actions support the U.S. Government's 2015-2017 Chairmanship of the Arctic Council and support implementation of the National Strategy for the Arctic Region.²⁰⁰ Beyond the Arctic region, the EPA will continue to work with the State Department, UNEP, and other international partners as part of the international Climate and Clean Air Coalition (CCAC), with the goal to realize immediate climate, health, and other benefits from reducing short-lived climate pollutants locally and regionally.

Collaboration with global partners is needed to build upon awareness of water pollution issues, including those that impact drinking water, and to promote watershed and marine environmental protection issues. For FY 2017, the EPA will continue to work with Africa, Asia, and Latin America to promote clean water and drinking water programs in those regions, focusing on stakeholder involvement in improving the quality of water sources and managing other environmental risks. The EPA also will advance practical approaches to protecting marine and coastal communities and environments from land-based sources of pollution, including wastewater, nutrients, and marine litter under the auspices of the Land Based Source of Pollution Protocol (LBS) of the Cartagena Convention for the Wider Caribbean Region.

In FY 2017, the EPA will strengthen implementation of global, regional, and country programs to address electronic waste (e-waste) and promote sound reuse and recycling of discarded used electronics. The EPA will continue to collaborate with other countries on environmentally sound management of e-waste to help reduce risks from exposure to toxic substances contained in e-waste such as lead, mercury, cadmium, and hexavalent chromium. The EPA also will continue to support improved information and data on e-waste volumes, flows, and management approaches, including by partnering with international organizations and networks such as the UN University's *Solving the E-waste Problem Initiative*, and the International E-Waste Management Network and by engaging in technical and policy discussions under the Basel Convention. These efforts support the National Strategy for Electronics Stewardship²⁰¹ released in July 2011.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently, there are no performance measures for this specific program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$749.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.

²⁰⁰ http://www.whitehouse.gov/sites/default/files/docs/nat_arctic_strategy.pdf.

²⁰¹ <http://www.epa.gov/osw/conserva/materials/ecycling/taskforce/docs/strategy.pdf>.

- (+\$150.0) This program change reflects an increase for anticipated work in ongoing international cooperation to address the transboundary movement of pollution, strengthening our activities in the Arctic and under the Arctic Council Chairmanship, and augmenting work on implementation of the Minamata Convention.

Statutory Authority:

In conjunction with the National Environmental Policy Act (NEPA), § 102(2)(F); Clean Air Act, § 103(a); Clean Water Act, § 104(a)(1)-(2); Safe Drinking Water Act (SDWA), §§ 1442(a)(1), 8001(a)(1); Federal Insecticide Fungicide and Rodenticide Act (FIFRA), §§ 17(d), 20(a); Toxic Substances Control Act (TSCA), §10(a); Marine Protection, Research, and Sanctuaries Act (MPRSA), § 203(a)(1); E.O. 13547; E.O. 13689.

Trade and Governance

Program Area: International Programs

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$5,715.1</i>	<i>\$5,907.0</i>	<i>\$6,010.0</i>	<i>\$103.0</i>
Total Budget Authority / Obligations	\$5,715.1	\$5,907.0	\$6,010.0	\$103.0
Total Workyears	18.3	18.0	18.0	0.0

Program Project Description:

The nexus between environmental protection and international trade has long been a priority for the EPA. Since the 1972 Trade Act mandated the U.S. Trade Representative (USTR) engage in interagency consultations, the EPA has played a key role in trade policy development. Specifically, the EPA is a member of the Trade Policy Staff Committee (TPSC) and the Trade Policy Review Group (TPRG)—interagency mechanisms to provide advice, guidance, and clearance to the Office of the U.S. Trade Representative (USTR) in the development of U.S. international trade and investment policy.

It is now understood that trade influences the nature and scope of economic activity and therefore the levels of pollution emissions and natural resource use. As such, the EPA seeks to mitigate the potential domestic and global environmental effects from trade and to prevent any potential conflicts with domestic environmental mandates. The EPA's work also helps to level the playing field with our trade partners by building their environmental management capacity and creating export opportunities for the United States. U.S. trade with the world has grown rapidly from \$55 billion in 1963 to \$5.2 trillion in 2014.²⁰² This increase underscores the importance of addressing the environmental consequences associated with trade.

The EPA serves as the lead U.S. agency for implementation of the North American Agreement on Environmental Cooperation (NAAEC).²⁰³ Beyond its primary objective to foster the protection and improvement of the environment in the region, NAAEC's creation represents a commitment by the U.S., Canada, and Mexico to integrate environmental protection considerations into their trade negotiations. As the first environmental cooperation agreement under a trade agreement, the NAAEC paved the way for many of the EPA's subsequent efforts under other Free Trade Agreements and serves as a good example of the EPA's approach to trade-related work. Beyond NAFTA,²⁰⁴ the EPA plays an important role in several trade negotiating fora, including the World Trade Organization (WTO) and regional and bilateral free trade agreements. The EPA also participates in the development and delivery of U.S. positions in other trade and economic fora,

²⁰² <http://www.census.gov/foreign-trade/statistics/historical/>.

²⁰³ <http://www.cec.org/Page.asp?PageID=1226&SiteNodeID=567>.

²⁰⁴ <http://www.ustr.gov/trade-agreements/free-trade-agreements/north-american-free-trade-agreement-nafta>.

such as the Organization for Economic Cooperation and Development (OECD), Asia Pacific Economic Cooperation, and Bilateral Investment Treaties. To engage a variety of domestic stakeholders, the USTR and the EPA co-host the Trade and Environment Policy Advisory Committee (TEPAC), a Congressionally-mandated advisory group that provides advice and information in connection with the development, implementation, and administration of U.S. trade policy.

FY 2017 Activities and Performance Plan:

During FY 2017, the EPA will continue to play an important role in the United States Government's negotiation of multilateral and bilateral trade and investment agreements. The Trans-Pacific Partnership Agreement (TPP) has been concluded and we are working with our interagency partners as we enter the implementation phase. In this phase, the EPA expects to provide targeted capacity building support to implement the agreement, similar to ongoing/existing governance and capacity building under previously negotiated agreements.

In FY 2017, the EPA also will participate in the negotiations of a comprehensive trade agreement with the European Union (EU), the Transatlantic Trade and Investment Partnership (TTIP) launched by President Obama during his State of the Union Address in February 2013. In addition to the specific core environmental obligations that have become standard in all of the United States Government's recent trade agreements, TTIP contains a number of elements that could directly or indirectly affect the EPA, including provisions on investment, services, regulatory coherence, and some specific sectorial provisions. The EPA will work with our interagency colleagues to ensure that the agreement promotes further cooperation with the EU on environmental issues of mutual concern without infringing upon our domestic regulatory obligations.

With negotiated agreements with South Korea, Panama, Peru, and Colombia that have recently entered into force, the EPA will provide appropriate capacity building assistance, which will include strengthening legal and regulatory frameworks to improve human health and the environment. Upon completion of the TPP, member countries also will be among the recipients of trade related environmental capacity building efforts. The EPA also will continue to work with other existing U.S. trading partners to help them meet their obligations under trade agreements and to provide input to new bilateral or regional free trade agreements and other trade and investment agreements. In addition, EPA will use these agreements with trading partners to promote a green economy, while fostering transparency through public participation in environmental decision making and related expansion of opportunities for U.S. business, especially in the area of green technologies.

Together, the EPA's contributions help create and build international demand for environmental technologies and export opportunities for U.S. manufacturers throughout the world. Since the inception of the Export Promotion Strategy, the EPA has engaged in a range of efforts to share information regarding U.S. approaches to key global environmental issues with international stakeholders; and conducted outreach activities at industry trade events and with U.S. Embassy personnel to enhance international market promotion and capacity building efforts. The EPA also is working to support U.S. efforts to negotiate an agreement in the WTO to eliminate tariffs on a broad range of environmental goods. This agreement has great potential to facilitate increased

global access to environmental technologies, and given the potential for enhanced exports, is expected to have significant economic benefits. The potential environmental and economic benefits resulting from this agreement would complement the EPA's export promotion strategy to expand the international deployment of advanced environmental solutions.

The Commission for Environmental Cooperation (CEC) promotes environmental cooperation in North America and addresses environmental issues from a regional perspective, with a particular focus on those issues that arise in the context of deeper economic, social, and environmental linkages. In FY 2017, the EPA will continue to provide regional and international leadership to combat climate change, focusing on mitigation and adaptation measures, such as by limiting emissions that contribute to air pollution, identifying best practices for the efficient use of energy and minimizing the use of natural resources and toxic material. The new trilateral work plan for the CEC integrates modeling and assessment of climate change mitigation options in our forest sector, develops a pilot on syndromic surveillance system for extreme heat, reduces emissions from goods moved via maritime transportation, and determines more sustainable Arctic migratory birds. Recognizing that the environment is now a critical part of the global conversation on economic and social development, the EPA will examine workable solutions to help communities and ecosystems adapt to climate change. In addition, the EPA will ensure that the CEC continues address key trade and environment issues that connect our three countries in North America, including transportation, trans-border pollutants, and the movement of hazardous waste across our borders. Finally we will work to ensure the alignment of North American goals with international commitments undertaken by the three countries.

In 2017 the EPA will point the CEC to continue its role in regularly addressing key trade and environment issues that connect our three countries, including those related to transportation, trans-border movements of pollutants, trade in wildlife species, and hazardous waste management. The U.S. will guide the CEC to advance ideas on emerging matters related to transnational issues to help ensure the alignment of USG goals with our international commitments. Through the CEC, the U.S. is involved in eliminating short-lived climate pollutants such as methane, black carbon and hydrofluorocarbons through the Climate and Clean Air Coalition (CCAC). The U.S. is supporting the elimination of short-lived climate pollutants such as methane, black carbon and hydrofluorocarbons through the Climate and Clean Air Coalition (CCAC). In shaping the 2015-2020 CEC Strategic Plan agenda, the EPA promotes an important agency priority: that of ensuring that Canada and Mexico adopt the U.S. goal of supporting community-based adaptation projects to enhance local resilience to climate change impacts on both our physical and social environments. This allows the U.S. to better promote a green growth agenda as a North American priority, based on our own focus on sustainable products and purchasing, sustainable materials management, energy efficiency, and green infrastructure.

The Rio+20 Conference, held in June 2012, provided support for several global efforts related to developing sustainable economies and strengthening good environmental governance. In FY 2017, the EPA will continue to play a lead role in advancing U.S. engagement under the 10-Year Framework of Programmes on Sustainable Consumption and Production (10YFP), adopted by governments at the Rio+20 Conference. As the U.S. National Focal Point for the 10YFP, the EPA will promote a "whole of government" engagement through convening a 10YFP interagency working group, and will advance international cooperation in key U.S. interests areas, including: sustainable public procurement; and life cycle assessment; as well as exchanging best practices and

building professional networking through the “Global SCP Clearinghouse”, recently launched by the United Nations Environment Program (UNEP).

Performance Targets:

Work under this program supports multiple strategic objectives. Currently, there are no performance measures for this specific program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$17.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$86.0) This program change reflects an increase in investments for capacity building assistance, which will include strengthening legal and regulatory frameworks to improve human health and the environment in selected TPP member countries.

Statutory Authority:

In conjunction with the National Environmental Policy Act (NEPA), § 102(2)(F); Clean Air Act, § 103(a); Clean Water Act, § 104(a)(1)-(2); Safe Drinking Water Act (SDWA), §§ 1442(a)(1), 8001(a)(1); Federal Insecticide Fungicide and Rodenticide Act (FIFRA), §§ 17(d), 20(a); Toxic Substances Control Act (TSCA), §10(a); Marine Protection, Research, and Sanctuaries Act (MPRSA), § 203(a)(1); E.O. 12915; E.O. 13141; E.O. 13277, as amended by E.O. 13346.

Program Area: IT / Data Management / Security

Information Security

Program Area: IT / Data Management / Security

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$6,981.9</i>	<i>\$28,186.0</i>	<i>\$21,138.0</i>	<i>(\$7,048.0)</i>
Science & Technology	\$100.0	\$0.0	\$0.0	\$0.0
Hazardous Substance Superfund	\$541.5	\$6,083.0	\$4,704.0	(\$1,379.0)
Total Budget Authority / Obligations	\$7,623.4	\$34,269.0	\$25,842.0	(\$8,427.0)
Total Workyears	12.3	14.3	14.3	0.0

Program Project Description:

Information is a valuable national resource and a strategic asset to the EPA. It enables the agency to fulfill its mission to protect human health and the environment. The agency's Information Security program is designed to protect the confidentiality, availability and integrity of the EPA's information assets. The information protection strategy includes, but is not limited to: policy, procedure and practice management; information security awareness, training and education; risk-based governance and oversight; weakness remediation; operational security management; incident response and handling; and Federal Information Security Modernization Act (FISMA) compliance and reporting.

FY 2017 Activities and Performance Plan:

Cybersecurity is a serious challenge to our nation's security and economic prosperity and a high priority as one of the 14 federal Cross Agency Priority (CAP) goals. The EPA will implement continuous monitoring of security controls in FY 2017 to strengthen its cybersecurity and address increasing security threats and risks. Effective information security requires vigilance and the ability to adapt to new challenges every day. The EPA will continue to manage information security risk and build upon efforts towards achieving the cybersecurity CAP goal to protect, defend and sustain its information assets through continued improvements to policy and procedures; oversight and compliance; training and awareness; mission assurance; and incident response. This program continually looks to improve agency efforts in redesigning information security business processes to improve efficiency and effectiveness.

In FY 2017, the EPA will continue to sustain multi-year improvements such as foundational capabilities and closing gaps in the security architecture. The EPA will close existing gaps by building strong authentication improvements at every point in the agency's system, implementing

capabilities to identify and respond to insider threats and to quickly isolate and remediate suspected or known compromised systems. These three areas are cornerstone capabilities in protecting against, responding to and mitigating significant risk sources, namely advanced persistent threats and insider threats. Other areas planned for FY 2017 include detecting and protecting against attacks on data stores, capturing and integrating threat intelligence sources, and mobile device controls. In addition to the continued improvements, the agency will need to sustain the tools and processes implemented in FY 2015 and FY 2016. The security architecture, associated processes and people together comprise an ecosystem with cross dependencies, and the system is strongest when operating as a whole. Not implementing the range of efforts in its entirety makes protections less operationally and cost effective.

In FY 2017, the EPA will build on progress made to automate and advance the information security program by:

- Increasing the use of continuous monitoring tools and processes;
- Focusing on protecting information;
- Strengthening authentication controls;
- Strengthening malware and defensive protections;
- Continuing to update and implement the information security architecture; and
- Refining incident management capabilities.

The Information Security program also will continue to detect and remediate the effects of Advanced Persistent Threats to the agency's information and information systems. The agency will continue to focus on training and user-awareness to foster desired behavior, asset definition and management, compliance, incident management, knowledge and information management, risk management and technology management. These efforts will strengthen the agency's ability to adequately protect information assets. The final result will be an information security program that can rely on effective and efficient controls and processes to counter cybersecurity threats.

In FY 2017, the agency will continue Phase II of the implementation of the Homeland Security Presidential Directive 12 (HSPD-12) requirements for logical and physical access as identified in the Federal Information Processing Standards (FIPS) 201, *Personal Identity Verification (PIV) of Federal Employees and Contractors*.²⁰⁵ This effort ensures only authorized employees have access to federal and federal-controlled facilities and information systems by requiring a higher level of identity assurance. Phase II will incorporate: physical access control management and interoperability with other federal agencies and partners.

The agency's efforts to implement the cross-agency priority goal on cybersecurity will focus on:

- Achieving 95 percent automated capability to provide enterprise-level visibility into asset inventory for all hardware assets and software assets;
- Filtering 90 percent of web traffic for phishing and malware attempts and blocking malicious websites;

²⁰⁵ <http://www.nist.gov/itl/csd/ssa/piv.cfm>.

- Checking 90 percent of email attachments for malware and blocking or quarantining malicious email;
- Using sender authentication on 90 percent of emails;
- Checking 90 percent of outbound communications for covert exfiltration;
- Checking 90 percent of remote connections for malware; and
- Evaluating 95 percent of hardware assets using an automated capability that scans for vulnerabilities on computing devices using the Common Vulnerabilities and Exposures (CVEs) in the National Institute of Standards and Technology's vulnerability database and aggregating data, making it visible at the enterprise level.

The EPA will continue to enhance the internal Computer Security Incident Response Capability (CSIRC) to ensure rapid identification, response, alerting and reporting of suspicious activity. CSIRC's mission is to protect the EPA's information assets and respond to security incidents – actual and potential. This includes the ability to detect unauthorized attempts to access, destroy, or alter the EPA's data and information resources. CSIRC will continue to establish new, and build existing, relationships with other federal agencies and law enforcement entities to support the agency's mission. The incident response capability includes components such as detection and analysis; forensics; and containment and eradication activities. To help ensure tools, techniques, and practices are current, CSIRC monitors new trends in information security and threat activity.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$205.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$7,253.0) This net fixed costs and program change reduces funding for cybersecurity related activities, leveraging progress made through the investments made in FY 2016. The net change will be realized from savings following start-up acquisition and development of IT tools required to improve the agency's cybersecurity. Areas with expected progress include: improving foundational capabilities, closing gaps in security architecture, modernizing infrastructure, and continuous monitoring to detect and remediate the effects of Advanced Persistent Threats to the agency's information and information systems.

Statutory Authority:

Federal Information Security Modernization Act (FISMA); Government Performance and Results Act (GPRA); Government Management Reform Act (GMRA); Clinger-Cohen Act (CCA); Paperwork Reduction Act (PRA); The Privacy Act of 1974; Freedom of Information Act (FOIA).

IT / Data Management

Program Area: IT / Data Management / Security

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$82,204.2</i>	<i>\$83,950.0</i>	<i>\$105,836.0</i>	<i>\$21,886.0</i>
Science & Technology	\$3,171.0	\$3,089.0	\$3,092.0	\$3.0
Hazardous Substance Superfund	\$13,865.7	\$13,802.0	\$15,437.0	\$1,635.0
Total Budget Authority / Obligations	\$99,240.9	\$100,841.0	\$124,365.0	\$23,524.0
Total Workyears	440.0	478.8	478.8	0.0

Program Project Description:

The work performed under the EPA's Information Technology/Data Management (IT/DM) program supports agency priorities by providing critical IT infrastructure and data management needed for: 1) access to scientific, regulatory, policy and guidance information needed by the agency, the regulated community and the public; 2) analytical support for interpreting and understanding environmental information; 3) exchange and storage of data, analysis and computation; and 4) rapid, secure and efficient communication. These are organized by the following functional areas: information analysis and access; data management and collection; information technology and infrastructure; and geospatial information and analysis.

IT/DM program activities support the Administration's goals of transparency, participation, engagement and collaboration to expand the conversation on environmentalism and support Executive Order No. 13642 - Making Open and Machine Readable the Default for Government Information. IT/DM also supports the maintenance of the EPA's IT services that enable citizens, regulated facilities, states and other entities to interact with the EPA electronically to get the information they need on demand, to understand what it means, and to submit and share environmental data with the least cost and burden. The program also provides support to other agency IT development projects and essential technology to agency staff, enabling them to conduct their work effectively and efficiently.

With the introduction of the Federal Information Technology Acquisition Reform Act (FITARA), the EPA is revising its IT budgeting, acquisition, portfolio review, and governance processes to adopt practices that improve delivery of capability to users, drive down lifecycle costs, and ensure

proper leveraging of shared services. The EPA's FITARA implementation plan²⁰⁶ meets federal guidance and seeks to leverage existing processes to improve efficiency.

FY 2017 Activities and Performance Plan:

The EPA's IT/DM functions have progressively integrated new and transformative approaches to the way IT is managed across the agency. The goal of the EPA's IT/DM services is to enhance the power of information by delivering on-demand data to the right people at the right time. In FY 2017, the EPA will continue developing and implementing data analytics, visualization, and predictive analysis methods and tools that will help the agency explore and address environmental, business and public policy challenges. Based on the EPA's requirements and technology assessments completed in FY 2015, the agency will develop the necessary enterprise solutions for infrastructure and software tools. The enhanced infrastructure and suite of tools will allow the EPA to better harness the power of data analytics for program analysis across the agency to drive environmental results. Pilot projects, driven by agency needs and use cases, will continue in order to demonstrate tangible benefits to the agency. The analytical platform will be supported and enhanced by developing a core group of employees to provide expertise and coordination of ongoing activities.

In FY 2017, the EPA will continue to implement the E-Enterprise business strategy, a transformative 21st century strategy – jointly governed by states and the EPA - for modernizing government agencies' delivery of environmental protection. Under this strategy, the agency will streamline its business processes and systems to reduce the reporting burden on states and regulated facilities, and improve the effectiveness and efficiency of regulatory programs for the EPA, states and tribes. IT/DM activities will continue to facilitate shared services and electronic transactions with the regulated community and external partners who routinely conduct environmental business with the EPA. To support the E-Enterprise strategy, IT applications and infrastructure will be enhanced to enable greater public accessibility and electronic exchange of information between the EPA, states and tribes. Foundational shared infrastructure and services will continue to be used to enable E-Enterprise principles. E-Enterprise provides a structure and strategy for modernizing the EPA's publicly facing systems.

To ensure the agency can effectively build and deliver important digital services as it modernizes and integrates its systems, the FY 2017 budget includes funding to continue to support a Digital Service team will bring in the system design expertise needed for transforming the agency's digital services to make them easier for the public to use and more cost-effective for the agency to build and maintain. Establishing this team is a key element of the EPA's Federal FITARA Implementation Plan. In accordance with the government-wide Digital Services initiative, the EPA's digital experts will work across the agency to develop and implement new externally facing technology solutions and to improve the EPA's existing technology infrastructure. The EPA will continue to deliver quality customer service to the public through smarter IT services to make it faster and easier for people and businesses to complete transactions. The team's core mission is to improve and simplify the digital experience that people and businesses have with their government.

²⁰⁶ Please see: <http://www.epa.gov/open/digital-strategy>.

In FY 2017, the team will continue to:

- Implement standards and solutions to bring digital services in line with the best private sector services in the discipline of design, software engineering, and product management, and apply these to the agency's most important services;
- Identify, implement and leverage common technology patterns that will help us scale services effectively;
- Provide consulting services to help programs and projects transition to best practices;
- Provide agile acquisition services to help with rapid and high quality acquisition services;
- Provide recruiting and qualification services to increase the technical skill level of staff at the EPA;
- Provide onsite piloting services to speed up project start times and ultimately delivery times;
- Identify and address gaps in the agency's capacity to design, develop, deploy and operate excellent public-facing services; and
- Provide accountability to ensure that the EPA achieves results.

In FY 2017, the EPA will continue to implement its IT acquisition review process as part of the implementation of federal Common Baseline Controls for FITARA. The EPA's FITARA implementation plan increases the engagement of the agency's Chief Information Officer (CIO) in the budget process to ensure that IT needs are properly planned and resourced. In addition, FITARA controls include an established solid communication and engagement strategy for the CIO with the agency's programs and Regional Offices to ensure that their IT plans are well designed, directly drive agency strategic objectives, and follow best practices. Lastly, the controls ensure the CIO engages closely with key IT decision-makers across the EPA and fosters plans to refresh IT skills within the agency.

In FY 2017, the following IT/DM activities will continue:

- **Data Management and Collection:** In FY 2017, the agency will continue to identify and establish processes to capture electronic versions of records and eliminate, wherever possible, receiving or printing paper records. These efforts will increase accountability, improve accuracy and offer cost savings associated with information requests. Data Management and Collection efforts include support for the agency's Freedom of Information Act (FOIA) program and the privacy of the agency's environmental data and personally identifiable information (PII). In FY 2017, the agency will continue to assess how to support expanded responsibilities associated with controlled unclassified information (CUI). The agency also will continue to implement a strategy to deliver improved information services to agency staff. This includes governance (policy, procedures and standards), outreach and training, and a multi-project effort to improve records and eDiscovery. In addition, the EPA continues to operate a shared service docket processing center supporting the agency's rulemakings and administering the Paperwork Reduction Act, minimizing information collection burden on the public. (In FY 2017, the Data Management and Collection activities will be funded, under the EPM appropriation, at \$5.9 million in fixed costs and \$22.54 million in non-payroll funding.)

The Data Management and Collection program includes an additional \$10 million to enhance the agency's eDiscovery services and records management. This funding will advance technologies and services to deliver comprehensive, legally defensible searches of the agency's electronically stored information (ESI) as needed to respond to litigation needs, congressional inquiries and FOIA requests. Meeting the requirements of court proceedings is time-intensive and rigorous, and the number of FOIA requests and discovery actions has been increasing steadily. Advance technologies will connect multiple information repositories, provide case-specific support for searches, results and preferred formats. Funds also will provide for user-friendly tools and approaches to promote effective electronic records management and help employees readily save, find and use agency records when needed. Overall, it will enhance the transparency, accessibility, and usability of the EPA's information resources to employees, as well as the public.

- **Geospatial:** In addition to meeting ongoing program needs, Geospatial information and analysis play a critical role in the agency's ability to respond rapidly and effectively in times of emergency. In FY 2017, the agency will continue to enhance the capabilities of the GeoPlatform, its shared technology enterprise for geospatial information and analysis. By implementing geospatial data, applications and services, the agency is able to integrate and interpret multiple data sets and information sources to support environmental decisions. Specifically during FY 2017, Geoplatform enhancements will focus on creating data services and dashboards based on this improved geographic information to support programmatic analysis and decision making and better inform the public about the EPA's use of grant funding to protect the environment and public health. In FY 2017, the EPA also will use the Geoplatform to publish internal and public mapping tools, including the recently deployed Maps for Office. With this service making the GeoPlatform easily accessible to the agency, it is anticipated that there will be at least a 25 percent increase in the number of shareable maps, geodata services, and applications available for use. The EPA will continue to play a leadership role in both the Federal Geographic Data Committee and the National Geospatial Platform, working with partner agencies to share geospatial technology capabilities across government. (In FY 2017, the Geospatial activities will be funded, under the EPM appropriation, at \$2.12 million in fixed costs and \$2.84 million in non-payroll funding.)
- **Information Access and Analysis:** In FY 2017, the EPA will develop agency infrastructure and a suite of tools that will harness the power of data across the agency to drive better environmental results. The agency will continue to identify, design, develop and deploy data analysis and visualization products that address core EPA missions using the advanced data analytics and visualization (ADAV) platform. The EPA will partner with other agencies, states, tribes and academic institutions to propose innovative ways to use, analyze and visualize data. Based on the lessons learned through small technology deployments in FY 2015 and more robust deployments in FY 2016, the EPA will more fully develop the ADAV platform with additional investments in IT infrastructure, analytical software, improved coordination of activities and training. The ADAV can serve as a backbone for analytics and data visualization efforts.

In addition, the program will be closely aligned with the E-Enterprise business strategy and digital services team to provide support throughout the data lifecycle from data identification and collection through internal and external data presentation. The program will continue to provide analysis of environmental information to the public and the EPA's staff through My Environment, Envirofacts, OneEPA Web, EPA National Library Network and the EPA Intranet. The program will continue to ensure compliance of the EPA's public systems with Section 508 of the Rehabilitation Act of 1973. (In FY 2017, the Information Access and Analysis activities will be funded, under the EPM appropriation, at \$8.46 million in fixed costs and \$11.49 million in non-payroll funding.)

- **Information Technology and Infrastructure:** In FY 2017, the agency will continue to provide information technology and infrastructure. The EPA will continue to provide support for software to assist the EPA's inspectors in the field with consistent core inspection processes and mobile management of inspections and inspection data. This effort requires identifying and downloading regulatory requirements, linking various information sources such as TRI and NEI data where appropriate, and utilizing common data standards. The EPA will continue to maintain and provision: desktop computing equipment, network connectivity, e-mail and collaboration tools, application hosting, remote access, telephone services, and Web and network services, and other IT-related equipment. Moreover, the EPA will continue to support the federal PortfolioStat investment reviews in coordination with the agency's Capital Planning and Investment Control process and FITARA implementation. In FY 2017, the agency also will continue efforts to consolidate the EPA's data centers and computer rooms and to optimize operations within the EPA's remaining Core and non-Core data centers. The EPA is committed to using cloud computing technologies and will have an enterprise-wide cloud hosting service in place by FY 2017. (In FY 2017, the Information Technology and Infrastructure activities will be funded, under the EPM appropriation, at \$32.69 million in fixed costs and \$19.79 million in non-payroll funding.)

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$4,913.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$10,000.0) This program change provides funding for improvement of the Agency's record management and eDiscovery capabilities. These improvements will support the agency's ability to quickly and efficiently respond to FOIA, congressional, and litigation-related information requests. Funds will be used to automate record management through the use of auto-categorization tools, enhance discovery and access of records, and implement scalable and flexible eDiscovery search capabilities.

- (+\$2,315.0) As part of the agency's E-Enterprise business strategy, this program change reflects the priority for further enhancement of IT application and infrastructure development to support exchange of information and shared services between EPA, states, and tribes. IT and infrastructure investments will allow for continued enhancements to the E-Enterprise portal where the regulated community can easily access environmental reporting applications, compliance assistance, and facility history. Also included is an investment in infrastructure to support the development of centralized reporting for programmatic compliance inspections which will increase the quality, efficiency, and transparency of the EPA's inspections.
- (+\$3,887.0) This program change provides funding for data analytics, visualization, and predictive analysis advances that will help the agency explore and address environmental, business and public policy challenges. The infrastructure and suite of tools developed and implemented will harness the power of data corporately to drive better environmental results. This funding also will support pilot projects which will demonstrate the value of large-scale data analytics in EPA's programs.
- (+\$710.0) This program change increases necessary funding for maintaining technology infrastructure for regional specific programmatic systems.
- (+\$61.0) This program change reflects an increase in the EPA's contribution to E-Rulemaking line of business.

Statutory Authority:

Federal Information Security Management Act (FISMA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Clean Air Act (CAA); Clean Water Act (CWA); Toxic Substances Control Act (TSCA); Federal Insecticide Fungicide and Rodenticide Act (FIFRA); Food Quality Protection Act (FQPA); Safe Drinking Water Act (SDWA); Resource Conservation and Recovery Act (RCRA); Government Performance and Results Act (GPRA); Government Management Reform Act (GMRA); Clinger-Cohen Act (CCA); Paperwork Reduction Act (PRA); Freedom of Information Act (FOIA); Controlled Substances Act (CSA) p. 385.

Program Area: Legal / Science / Regulatory / Economic Review

Administrative Law

Program Area: Legal / Science / Regulatory / Economic Review

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$4,507.4</i>	<i>\$4,774.0</i>	<i>\$4,710.0</i>	<i>(\$64.0)</i>
Total Budget Authority / Obligations	\$4,507.4	\$4,774.0	\$4,710.0	(\$64.0)
Total Workyears	26.4	25.8	25.8	0.0

Program Project Description:

This program supports the EPA's Administrative Law Judges (ALJ) and the Environmental Appeals Board (EAB). The ALJ preside in hearings and issue initial decisions in cases initiated by the EPA's enforcement program concerning environmental violations. The EAB issues final decisions in environmental adjudications (primarily enforcement and permit-related) that are on appeal to the EAB. The EAB also serves as the final approving body for proposed settlements of enforcement actions initiated by the agency's headquarters offices. The ALJ issues orders and decisions under the authority of the Administrative Procedure Act (APA) and the various environmental statutes that establish administrative enforcement authority. The EAB issues decisions under the authority delegated by the Administrator. The decisions reflect findings of fact and conclusions of law.

By adjudicating disputed matters, the ALJ and the EAB further the agency's mission to protect human health and the environment. The ALJ provides legal process and review for hearings and issues initial decisions in cases brought by the agency's enforcement program against those accused of violations under various environmental statutes. The right of affected persons to appeal those decisions is conferred by various statutes, regulations and constitutional due process rights. The EAB adjudicates administrative appeals in a thorough, fair and timely manner. In approximately ninety percent of cases decided by the EAB, no further appeal is taken to federal court, providing a final resolution to the dispute. The EAB and ALJ also offer an opportunity for alternative dispute resolution.

FY 2017 Activities and Performance Plan:

In FY 2017, the ALJ will convene formal hearings in the location of the alleged violator or violation, as required by statute. The ALJ plans to complete its evaluation of the electronic filing system to determine the extent of reductions in: mailing delays for all parties, mailing costs for alleged violators, and requests for paper documents from the ALJ. The ALJ will identify and

implement any process changes as necessary. Upon request and/or availability of funds, the ALJ also will offer public training events on administrative hearing procedures for the EPA's employees and the regulated community, as well as work with the EAB to support several judicial environmental training efforts.

In FY 2017, the EAB will continue to streamline its procedures for adjudicating permit appeals under all statutes, and, in particular, will continue to expedite appeals in Clean Air Act New Source Review cases. In addition, the EAB will offer parties to its cases the opportunity to streamline and expedite resolution of their appeals through the EAB's Alternative Dispute Resolution (ADR) program. Since the inception of the ADR program, the EAB has successfully resolved without litigation more than eighty percent of the cases where the parties requested that the EAB conduct ADR. In addition to the EAB having successfully resolved two contentious Clean Water Act permit appeals through the use of ADR in FY 2015, the EAB anticipates using the ADR process in two, additional complex, multi-party cases. The EAB also expects to receive several new ADR negotiation requests. The EAB will continue to implement its updated electronic filing system which allows users to file pleadings and retrieve electronic filings quickly and efficiently.

Performance Targets:

Work under this program supports multiple goals and strategic objectives. Currently, there are no performance measures for this specific program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$15.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$79.0) This program change reflects a reduction associated with the anticipated savings from the Office of Administrative Law Judge's electronic docketing system.

Statutory Authority:

Administrative Procedure Act (APA); Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute); Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Clean Water Act (CWA); Clean Air Act (CAA); Toxic Substance Control Act (TSCA); Solid Waste Disposal Act (SWDA); Resource Conservation and Recovery Act (RCRA); Safe Drinking Water Act (SDWA); Emergency Planning and Community Right-to-Know Act (EPCRA); Marine Protection, Research, and Sanctuaries Act (MPRSA); Mercury-Containing and Rechargeable Battery Management Act (MCRBMA); the Act to Prevent Pollution From Ships (APPS).

Alternative Dispute Resolution

Program Area: Legal / Science / Regulatory / Economic Review

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$1,272.5</i>	<i>\$1,045.0</i>	<i>\$1,255.0</i>	<i>\$210.0</i>
Hazardous Substance Superfund	\$748.8	\$675.0	\$767.0	\$92.0
Total Budget Authority / Obligations	\$2,021.3	\$1,720.0	\$2,022.0	\$302.0
Total Workyears	5.7	6.7	6.7	0.0

Program Project Description:

The agency's General Counsel and Regional Counsel Offices provide environmental Alternative Dispute Resolution (ADR) services. The EPA utilizes ADR as a method for preventing or resolving conflicts prior to engaging in formal litigation and includes the provision of legal counsel, facilitation, mediation and consensus building. This program offers cost-effective processes to resolve disputes and improve agency decision making.

FY 2017 Activities and Performance Plan:

In FY 2017, the agency will continue to provide conflict prevention and ADR services to the EPA and external stakeholders on environmental matters. The national ADR program assists in developing effective ways to anticipate, prevent and resolve disputes and makes neutral third parties – such as facilitators and mediators – more readily available for those purposes. As in previous years, the agency expects to support at least 57 non-Superfund cases with neutral third party support in areas including: Tribal consultation, Environmental Justice, community engagement and collaborative dialogues.

In FY 2017, this program will continue to provide ADR and collaboration advice and conflict coaching to 128 new non-Superfund cases where headquarters and Regional Offices are working with stakeholders to improve environmental results. The agency expects to provide at least 20 training events, reaching at least 350 of the agency's employees (non-Superfund and Superfund) to continue to build the agency's capacity to resolve environmental issues in the most efficient way and to achieve the agency's strategic objectives. Under the EPA's ADR policy and the OMB/CEQ Policy Memorandum on Environmental Collaboration and Conflict Resolution,²⁰⁷ the agency

²⁰⁷ Please see: http://www.epa.gov/sites/production/files/2015-09/documents/omb_ceq_eccr.pdf.

encourages the use of ADR techniques to prevent and resolve disputes with external parties in many contexts, including: adjudications, rulemaking, policy development, administrative actions, civil judicial enforcement actions, permit issuance, protests of contract awards, administration of contracts and grants, stakeholder involvement, negotiations, and litigation. For example, as previously reported, the EPA estimated 25 percent better environmental outcomes and an average of more than \$50,000 in FTE savings per case in a small pilot study of Superfund and non-Superfund ADR cases. In FY 2015, the EPA conducted a survey of all litigation-related FY 2013 Superfund and non-Superfund ADR cases and estimated that ADR required 50 percent fewer staff lead hours for active periods and one-third less elapsed time to reach a decision compared to decision making processes that likely would have been used otherwise (e.g., litigation, unassisted negotiation). These FY 2013 results are consistent with those from an earlier survey of FY 2011 and FY 2012 cases.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$3.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$207.0) This program change reflects an increase in resources to provide ADR services and training more widely. Funding will allow the Agency to utilize more cost-effective processes to resolve disputes and improve decision making.

Statutory Authority:

Administrative Dispute Resolution Act (ADRA) of 1996; Negotiated Rulemaking Act of 1996; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA’s organic statute).

Civil Rights Program

Program Area: Legal / Science / Regulatory / Economic Review

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$10,113.3</i>	<i>\$10,071.0</i>	<i>\$12,338.0</i>	<i>\$2,267.0</i>
Total Budget Authority / Obligations	\$10,113.3	\$10,071.0	\$12,338.0	\$2,267.0
Total Workyears	55.5	64.0	64.0	0.0

Program Project Description:

The EPA's Civil Rights program, as managed by the Office of Civil Rights (OCR), has a broad mission. The program enforces federal civil rights laws that prohibit discrimination by external recipients of EPA funds, and it also enforces civil rights laws internally that protect employees and applicants for employment from discrimination. In addition, the program provides policy guidance and technical assistance on civil rights compliance and equal employment opportunity and is responsible for carrying out the following four mission-critical functions:

- External Civil Rights Compliance (Title VI) functions include the enforcement of several civil rights laws that prohibit discrimination on the basis of race, color, national origin (including limited-English proficiency), disability, sex, and age, in programs or activities that receive federal financial assistance from the EPA. The Civil Rights program investigates and resolves external complaints, develops policy, conducts compliance reviews, provides technical assistance to recipients, and conducts outreach to communities and other stakeholders.
- Employment Complaints Resolution (Title VII) functions address internal complaints of discrimination, including those filed under Title VII of the Civil Rights Act of 1964, alleging discrimination based on race; color; religion; sex, including pregnancy, sex stereotyping, gender identity or gender expression; national origin; sexual orientation; physical or mental disability; age; protected genetic information; status as a parent marital status; political affiliation; or retaliation based on previous Equal Employment Opportunity (EEO) activity, against federal EPA employees and applicants for federal EPA employment.
- Affirmative Employment Analysis and Accountability (AEAA) functions provide leadership, direction, and advice to managers and supervisors to assist them in carrying out equal opportunity and civil rights responsibilities. In addition, the Civil Rights program oversees the EPA's continuing affirmative activities to promote equal employment

opportunity. The program also is responsible for reporting under the Equal Employment Opportunity Commission's Management Directive 715,²⁰⁸ which provides guidelines for identifying triggers and conducting barrier analysis within the EPA's workforce.

- Reasonable Accommodation functions carry out the EPA's responsibilities under The Rehabilitation Act of 1973, which requires the agency to provide reasonable accommodation for individuals with disabilities, unless it would cause undue hardship for the agency.

FY 2017 Activities and Performance Plan:

In FY 2015, the program developed and issued an External Compliance and Complaints Program Strategic Plan for FY 2015-2020 which will be implemented in FY 2016. This program's strategic plan is aligned with the FY 2014-2018 EPA Strategic Plan. In FY 2017, the program will complete and implement similar strategic plans for addressing each of the other three internal program functions. Similarly, those strategic plans will include specific goals, implementation steps, and benchmarks that will serve as internal performance measures to ensure accountability for all of the program's critical functions. As with the External Compliance Strategic Plan, the other functional strategic plans also will address strategic human capital planning, organizational development and technology resources, and training to promote a highly effective, performance-based organization. All four of these plans will be rolled up into one comprehensive OCR Program Strategic Plan. These actions will fully implement measures called for in the EPA Report "Developing a Model Civil Rights Program at the EPA."²⁰⁹

In addition, there will be a continued emphasis on Limited English Proficiency (LEP). The EPA has in place an agencywide contract that serves all of the EPA's program and regional offices and will ensure effective, efficient, and timely access to telephonic interpretation services, in-person interpretation services, and document translation services. In FY 2017, the program will continue to serve as the lead office on LEP access and continue to implement an agencywide LEP Implementation Plan which guides the EPA's efforts to ensure access for LEP person to services, programs and activities. By January 2017, each of the EPA's headquarter and regional programs will have in place office-specific sub-plans that track the comprehensive EPA LEP Plan.

External Civil Rights, Including Title VI

In FY 2017, the program will:

- Continue to implement the External Compliance Program Strategic Plan for FY 2015-2020 through measurable program goals that will: 1) ensure prompt, effective, and efficient complaint docket management; 2) enhance the external compliance program through proactive compliance reviews, strategic policy development, and engagement of critical EPA, federal and external partners, and stakeholders (e.g., recipients and communities); and 3) strengthen the program's workforce through strategic human capital planning,

²⁰⁸ Equal Employment Opportunity Commission, *Equal Employment Opportunity Management Directive 715, October 1, 20113.*

²⁰⁹ For more information: <http://intranet.epa.gov/civilrights/pdfs/training/ecfr-developing-a-model-civil-rights-program.pdf>.

organizational development and technology resources, and training to promote a forward looking organization.

- Fully implement and further refine the Case Resolution Manual issued in December 2015, consistent with federal best practices. The Case Resolution Manual includes: procedures for addressing all phases of the external case resolution process, including complaints and compliance reviews; the Strategic Case Assessment Plan that includes specific targeted goals to promote timely and effective processing of complaints, particularly within the first ninety days after their receipt; and model letters, plans, and other standard operating procedures for staff's use in processing complaints. OCR is taking the affirmative steps to implement and accomplish these goals.
- Put in place robust measures and implement the tools developed in FY 2015 and FY 2016, including the Case Resolution Manual and the External Compliance Toolkit.
- Continue to refine and further develop the Civil Rights Compliance Toolkit for EPA's financial assistance recipients.
- Complete staff training on the Civil Rights Compliance Toolkit.
- Increase the use of Alternative Dispute Resolution and Informal Resolution by an additional 20 percent.
- Manage all civil rights cases through a comprehensive electronic case and document management system (EXCATS) and update this system as needed.
- Follow through on any remaining issues as a result of the amendments to the program's non-external discrimination regulations related to the collection of compliance report data from recipients and conducting proactive compliance reviews.
- Initiate up to six targeted compliance reviews on critical civil rights issues consistent with the specific benchmarks outlined in the External Compliance and Complaints Program Strategic Plan for FY 2015-2020.
- Develop strategic policy guidance on cross-cutting and cutting edge issues as appropriate.
- Increase proactive engagement of critical internal EPA and federal partners.
- Increase proactive engagement with critical external partners and stakeholder recipients and communities through technical assistance and outreach.
- Heighten transparency and accountability by posting key documents on OCR's website.
- Develop a FY 2017 annual report that highlights the accomplishments and programmatic goals of the external compliance program.
- Fully implement the Strategic Human Capital and Organizational Development Plan for the External Compliance function.

Title VII

In FY 2017, the program will issue and implement the Equal Employment Program Strategic Plan to: 1) ensure prompt, effective, and efficient EEO complaint docket management; 2) enhance the proactive EEO compliance program through strategic policy and training development, and the engagement of critical internal EPA partners and stakeholders; and 3) strengthen the program's workforce through strategic human capital planning, organizational development and technology resources and training to promote a forward looking organization. Consistent with this strategic plan, the program will:

- Train additional collateral-duty EEO Counselors and increase the number of Alternative Dispute Resolution (ADR) staff by recruiting additional collateral-duty ADR professionals and providing them with at least 32 hours of mediation training.
- Further reduce, by an additional 10 percent from the prior year's performance, the number of days that complaints are under investigation to less than the regulatory 180 days.
- Enhance the consistency of process-related practices and improve efficiency and effectiveness of the EEO process by identifying and revising EEO complaint and other agency forms.
- Continue to provide related training to the EEO community on the adopted procedures and implement lessons learned from the FY 2016 National EEO Strategic Planning and Training Conference convened by OCR.
- Further develop the EEO Toolkit of vetted, updated, and improved EEO forms.
- Implement the "EEO Settlement Process Standard Operating Procedures" and provide additional related training.
- Fully implement the Strategic Human Capital and Organizational Development Plan for the EEO function.

Affirmative Employment Analysis and Accountability (AEAA)

In FY 2017, the program will implement the Affirmative Employment Analysis and Accountability Program Strategic Plan developed in FY 2016 to: 1) ensure prompt, effective, and efficient development of critical and required reports, such as MD-715; 2) enhance the proactive Affirmative Employment function through strategic policy, procedures, training development, and the engagement of critical internal EPA partners and stakeholders; and 3) strengthen the program's workforce through strategic human capital planning, organizational development and technology resources, and training to promote a forward looking organization. Consistent with this strategic approach, the program will:

- Heighten collaboration among program offices to ensure coordination of related EEO and diversity and inclusion missions.
- Ensure integration of civil rights into the EPA's strategic planning processes, organizational assessments, operating plans, and other relevant reporting vehicles.
- Implement the agencywide "Civil Rights Training Curriculum" for managers and supervisors.
- Ensure collaboration on continuous agency training regarding harassment policy and procedures.
- Ensure implementation of training on Transgender Policies and Procedures.
- Develop and implement activities, trainings, and events that assist the EPA's programs in meeting shared goals, missions, and objectives.
- Develop a process for conducting periodic surveys/focus groups in collaboration with EPA partners and through the EEOOs, PMOS, and DCROs to collect information on best practices to ensure effective affirmative employment programs.
- Provide effective support tools for managers and supervisors in carrying out their responsibilities under MD 715 and the Diversity and Inclusion Strategic Plan.

- Fully implement the “Toolkit of Best Practices to Promote Equal Employment Opportunity”.
- Develop best practices Toolkit for special emphasis programs such as the Special Emphasis Program (SEP) and Managers (SEPM) Handbook.
- Develop and implement a critical activities and document management system for AEAA.
- Fully implement the Strategic Human Capital and Organizational Development Plan for the AEAA function.

Reasonable Accommodations Program

In FY 2017, the program will implement the Reasonable Accommodation (RA) Program Strategic Plan developed in FY 2016 to: 1) ensure prompt, effective, and efficient RA complaint docket management; 2) enhance the proactive RA compliance function through strategic policy, training development, and the engagement of critical internal EPA partners and stakeholders; and 3) strengthen the program’s workforce through strategic human capital planning, organizational development and technology resources, and training to promote a forward looking organization. The program will:

- Continue to update and enhance the comprehensive, user-friendly electronic case, activity, and document management system.
- Refine, update and release reasonable accommodation templates developed in order to improve the timeliness, efficiency, and consistency of communications.
- Continue to assess, evaluate, and further develop the on-line training curriculum for reasonable accommodation and Section 508 compliance.
- Fully implement the Strategic Human Capital and Organizational Development Plan for the RA function.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$1,208.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs for existing FTE due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$1,059.0) This program change reflects an increase to support the timely processing of cases, significantly reduce, and ultimately eliminate, the backlog of Title VI complaints, further promote the efficiency of Title VII complaint processing, enhance mandatory and timely reporting, raise the public awareness level, support IT, increase staff development, and improve the overall management of the complaints process.

Statutory Authority:

Title VI of the Civil Rights Act of 1964; Federal Water Pollution Control Act Amendments of 1972, § 13; Title IX of the Education Act amendments of 1972; Age Discrimination Act of 1975; Title VII of the Civil Rights Act of 1964; Equal Pay Act of 1963; Rehabilitation Act of 1973, §§ 501, 504, 505, 508; Americans with Disabilities Act of 1990; ADA Amendments Act of 2008; Age Discrimination in Employment Act (ADEA) of 1967; Genetic Information Nondiscrimination Act (GINA).

Legal Advice: Environmental Program

Program Area: Legal / Science / Regulatory / Economic Review

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$45,980.5</i>	<i>\$48,565.0</i>	<i>\$53,021.0</i>	<i>\$4,456.0</i>
Hazardous Substance Superfund	\$735.5	\$578.0	\$511.0	(\$67.0)
Total Budget Authority / Obligations	\$46,716.0	\$49,143.0	\$53,532.0	\$4,389.0
Total Workyears	234.1	274.6	274.6	0.0

Program Project Description:

This program provides legal representational services, legal counseling and legal support for all of the agency's environmental activities.²¹⁰ The legal support provided by this program is essential to the agency's core mission and goes to every aspect of the agency's strategic plan. This program provides legal counsel on issues arising under all of the EPA's environmental statutes including: the Clean Air Act (CAA), the Clean Water Act (CWA), the Safe Drinking Water Act (SDWA), the Toxic Substances Control Act (TSCA), the Pollution Prevention Act, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Federal Food, Drug, and Cosmetic Act, the Emergency Planning and Community Right-to-Know Act (EPCRA), the Marine Protection, Research and Sanctuaries Act, the Resource Conservation and Recovery Act (RCRA), the Oil Pollution Act (OPA), the Resources and Ecosystems Sustainability, and the Tourist Opportunities and Revived Economies of the Gulf Coast States Act (RESTORE Act), as well as the Administrative Procedures Act (APA). The personnel assigned to this program represent essential expertise in these critical fields that the agency relies on for all of its decisions and activities in furtherance of its mission: to protect human health and the environment.

This program provides counsel on every major action the agency takes. It plays a central role in all statutory and regulatory interpretation and all rule and guidance development under the EPA's environmental authorities. This program provides essential legal advice for every petition response, every judicial response and every emergency response. When the agency acts to protect the public from pollutants or health-threatening chemicals in the air we breathe, in the water we drink, or in the food we eat, this program provides counsel on the agency's authority to take that action; it then provides the advice and support necessary to finalize and implement that action. When that action is challenged in court, this program defends it.

²¹⁰ Resources for legal services to support agency operations are included in the Legal Advice: Support program.

FY 2017 Activities and Performance Plan:

In FY 2017, the program will continue to provide critical legal counsel in support of the EPA's Clean Power Plan. The Clean Power Plan is the President's highest priority for the EPA and is central to climate change mitigation efforts in the United States. The standards for existing sources propose to cut carbon pollution from the power sector by 32 percent by 2030 (compared to 2005 emission levels), equal to almost two-thirds of the nation's passenger vehicles or the annual emissions from over half of the homes in America. The existing source standards will produce public health and climate benefits worth an estimated \$34 billion to \$54 billion per year in 2030, far outweighing the estimated costs of \$1.4 billion to \$8.4 billion.²¹¹

In 2013, the EPA proposed carbon standards for new power plants under §111(b) of the Clean Air Act. In 2014, the EPA proposed standards for existing power plants under §111(d). The agency finalized both rules in 2015. The first State Implementation Plans are due in FY 2017. Legal counsel will continue to be in high demand to support the development of national process and technical guidance to inform development of approvable state plans, and in defending the EPA in ongoing litigation. Regional Counsel will support headquarters in analyzing implementation plan issues as well as support regional air program staff as they field questions from states and stakeholders. Regional Counsel also will play a critical role in the review and approval of state plans. In FY 2017, workload increases are expected to continue as the EPA implements these rules and agency resources shift to help meet the demand for legal counsel in both headquarters and Regional Offices.

Legal counseling resources also continue to be in high demand to support the agency's response to states seeking assistance developing or implementing environmental programs, industrial facilities seeking permits that are required to undertake new economic activity, and citizens seeking actions to protect local environmental quality, among other things. Legal counseling resources help provide certainty sooner to facilitate economic development while protecting public health, and help states more quickly implement state programs that protect public health by cleaning up the air, water, and land. Legal counseling resources also enable the agency to be more responsive to requests from citizens, industry, states, and tribes about the appropriate way to comply with environmental regulations.

Investing the resources to improve legal defensibility of agency actions saves resources in the long run and increases certainty for regulated industry because actions are less likely to be reversed by the courts and have to be redone. Over the last five years, the number of lawsuits the EPA counseling attorneys have handled during a year have continued to increase. In addition to the increase in the number of judicial challenges to EPA actions, these challenges have increased in complexity. The agency must continue to adequately staff the work on these cases in order to protect the EPA's efforts to protect human health and the environment.

²¹¹ The agency's complete proposal can be viewed by accessing the Federal Register website (Doc. Citation, 79 FR 34829).

The following examples illustrate the activities of this program.

Goal ²¹²	Specific EPA Office of General Counsel (OGC) Activities in FY 2015
Goal 4	Worked with Department of Justice to obtain decision by the D.C. Circuit Court of Appeals upholding the District Court’s dismissal of litigation challenging the EPA’s rejection of a petition filed under TSCA seeking the EPA’s regulation of lead bullets and shot.
Goal 4	Provided legal support to the endocrine disruptor screening program in implementing significant new scientific developments regarding methodologies for assessing the potential public health and environmental harms from chemicals.
Goal 3 Goal 4	Provided substantial support and counseling to multiple headquarters and Regional Offices concerning issues related to the presence of PCBs in schools around the country.
Goal 3 Goal 4	Provided extensive legal analysis and strategic support to legislative efforts to the TSCA reform bill that was passed by the House of Representatives. If this reformed bill is enacted into law, it would reinvigorate efforts by the EPA to deal with toxic chemicals by strengthening standards.
Goal 4	Successfully negotiated with wildlife groups and the pesticide industry a settlement in <i>CBD v. EPA</i> that will continue to allow the EPA and the Federal Wildlife Services to focus their scientific resources on implementing recent National Academy of Science recommendations for conducting ESA assessments for pesticides rather than on litigation.
All Goals	Advised the EPA’s senior leadership on the legal significance of rights reserved to Indian tribes under treaties with the United States to help ensure that EPA actions to protect human health and the environment do not conflict with treaty-protected Tribal rights such as those to fish, hunt, and, gather on Indian reservations and lands ceded by tribes.
All Goals	Supported U.S. government efforts to encourage China to strengthen its environmental rule of law particularly pertaining to air pollution regulation as well as encouraging laws requiring disclosure of information to the public and allowing public participation in environmental matters.
Goal 2	Obtained a favorable decision from the Court of Appeals for the Ninth Circuit upholding the EPA’s NPDES general permit for oil and gas exploration in Alaska’s Beaufort Sea.
Goal 2	Obtained a favorable decision from the Court of Appeals for the Eleventh Circuit in which the EPA was relieved of any further obligations to promulgate numeric nutrient criteria for Florida.
Goal 2 Goal 3	Successfully defended the EPA’s approval of Oregon and Washington CWA section 303(d) lists of impaired waters with regard to identification of waters impaired by ocean acidification

²¹² The EPA Strategic Plan for FY 2014-2018 identifies five strategic goals to guide the agency’s work:

- Goal 1: Taking Action on Climate Change and Improving Air Quality
- Goal 2: Protecting America’s Waters
- Goal 3: Cleaning Up Communities and Advancing Sustainable Development
- Goal 4: Ensuring the Safety of Chemicals and Preventing Pollution
- Goal 5: Enforcing Environmental Laws

Goal 2	Successfully obtained the Third Circuit Court of Appeals' decision upholding the EPA's groundbreaking Chesapeake Bay Total Maximum Daily Load (TMDL). This legal victory will help ensure the ecological recovery of this critically important aquatic resource.
Goal 2	Successfully obtained court modification of a consent decree regarding Florida nutrients, relieving the EPA of the obligation to complete multiple federal rulemakings, and allowing the State to implement its program to address nutrients.
Goal 2	Successfully defended entry of the consent decree in the Seventh Circuit for the Chicago Municipal Water System.
Goal 1 Goal 3 Goal 5	Defended litigation in the U.S. Supreme Court challenging the "necessary and appropriate finding" underlying the Mercury and Air Toxics Standard, the first federal standard to reduce emissions of toxic air pollutants like mercury, arsenic and metals from power plants.
Goal 1	Provided legal counsel and litigation defense services on permitting under the New Source Review (NSR) and Title V operating permitting programs under the CAA allowing facilities to construct or continue to operate in an environmentally responsible manner.
Goal 1	Successfully defended the core of the EPA's approach to reducing interstate pollution before the D.C. Circuit, after the Supreme Court case affirming our approach, provided essential legal counsel for an upcoming action to apply that approach to a new air quality standard, and counselled the agency on handling numerous other regulatory actions and cases that depended (at least in part) on the Supreme Court and D.C. Circuit decisions.
Goal 1 Goal 3 Goal 4	Provided essential legal counsel to the agency, coordinating with Regional Offices to ensure national consistency in actions to implement the haze program in specific federal and state plans.
Goal 1	Provided essential legal counsel on actions to implement the National Ambient Air Quality Standards (NAAQS) by states, including multiple national rulemakings and guidances. Also provided necessary legal support and advice regarding how to address numerous implementation issues raised in the agency's ongoing NAAQS review for ozone.
Goal 1	Provided legal support and counsel for the final rules to limit greenhouse gas emissions from new, modified, and existing power plants, the largest stationary source of such pollution in the US.
Goal 1	Provided legal support and counsel for the development of guidance and rules to implement the Supreme Court decision reducing the number of stationary sources required to obtain CAA permits based on the level of their greenhouse gas emissions.
Goal 4	Provided legal counsel on the implementation of the President's Executive Order 13650 on improving the safety and security of chemical manufacturing and storage facilities, including drafting a regulation to modernize the requirements for Risk Management Plans required for such facilities under the CAA.
Goal 1	Defended a dozen court challenges to the EPA's regional haze-related actions, leading to multiple favorable decisions in the circuit courts and very narrow remands without vacatur in those decisions that were not fully favorable.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$3,326.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$1,130.0) This program change provides essential funding for litigation support including subscription to law case reference database LexisNexis, training and capacity building activities aimed at improving the Agency's performance in responding to FOIA requests.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (EPA's organic statute).

Legal Advice: Support Program

Program Area: Legal / Science / Regulatory / Economic Review

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$15,046.8</i>	<i>\$15,480.0</i>	<i>\$19,327.0</i>	<i>\$3,847.0</i>
Total Budget Authority / Obligations	\$15,046.8	\$15,480.0	\$19,327.0	\$3,847.0
Total Workyears	70.9	92.8	92.8	0.0

Program Project Description:

This program provides legal representational services, legal counseling and legal support for all activities necessary for the EPA's operations.²¹³ It provides legal counsel on issues including, but not limited to: appropriations, claims, contracts, ethics, employment law, grants, information law, intellectual property law, real property, and all aspects of civil rights law.

For example, if an EPA program office needs to know how to respond to a Freedom of Information Act (FOIA) request, whether it may spend money on a certain activity, how to create a trademark for a voluntary program (e.g., Energy Star), or what to do when a plaintiff files a tort claim against the agency, this program is the source of answers, options, and advice. This program supports the EPA in maintaining high ethical standards and in complying with all laws and policies that govern the agency's operations.

FY 2017 Activities and Performance Plan:

In FY 2017, increased legal support will be needed in a number of specific areas covered by this program. The EPA expects continued demands to address and manage information requests, growth in demands for legal support for work under the Civil Rights Act, and an ongoing need for a high level of involvement in questions related to finance, appropriations, ethics and employment. Funding within this program supports the staff necessary to address these needs. The EPA also is continuing a transformation to become a High Performing Organization, efficiently accomplishing its mission with increasingly constrained resources. This type of organizational transformation will continue to increase demand for legal counsel on financial, operational, management, and personnel issues.

In recent years, the EPA's labor and employee relations (LER) caseloads has nearly doubled. A significant number of these cases involve highly sensitive, complex, and protracted litigation. In

²¹³ Resources for legal services to support Environmental programs are included in the Legal Advice: Environmental program.

FY 2017, the agency will continue to focus on increasing the capacity to conduct supervisor training which will be of great benefit to the agency. Such training will ensure that supervisors are effectively trained on LER matters which should result in a reduction in litigation and its associated costs. Additional resources would enable the agency to address disciplinary actions in a more expeditious manner and position this program to work to improve the quality and defensibility of the EPA's actions. These efforts will improve legal defensibility of agency actions saves resources in the long run by eliminating or reducing the number or personnel actions that are reversed or remanded by courts or administrative tribunals.

In addition to the increase in the number of judicial challenges to the EPA's actions, these challenges also have increased in complexity. The agency will continue to staff the work on these cases in order to protect against the legal risks they present to the EPA's efforts to protect human health and the environment. Of particular significance for the workload within this program, litigation under the Freedom of Information Act (FOIA) has continue to increase steadily in both number and complexity. This program will continue to improve the quality and defensibility of the EPA's actions to meet these challenges.

The following examples illustrate this program's important role in implementing the agency's core priorities and mission.

Goal ²¹⁴	Specific EPA OGC Activities in FY 2015
Goal 4	Provided assistance to the Department of Justice and prevailed in a Federal Tort Claims Act case (Klein v. US). Plaintiff had sought damages, attributing his extensive car problems to the EPA's ethanol policy and the purchase of poor quality ethanol-blended gasoline. The Magistrate Judge agreed that the Plaintiff's cause of action is barred by the FTCA's two-year statute of limitations and that the Plaintiff cannot use the Administrative Procedures Act to revive his stale FTCA claim.
All Goals	Provided essential legal counsel and support to assist the EPA with finalizing an anti-harassment order which allows employees to understand how the complaint process works and to guide managers on how to take prompt corrective action, when appropriate, to address harassment.
All Goals	Provided crucial legal counsel and support to create numerous written documents encouraging managers to support diversity and inclusion, as well as Minority Academic Institutions while complying with merit systems principles, and the Equal Protection Clause.
All Goals	Assisted the United States Attorney's Office for the Middle District of Florida in the successful criminal prosecution of laboratories engaged in fraudulent practices.
All Goals	Provided training sessions throughout the agency on FOIA, eDiscovery, personal privacy, and confidential business information.

²¹⁴ The EPA Strategic Plan for FY 2014-2018 identifies five strategic goals to guide the agency's work:

- Goal 1: Taking Action on Climate Change and Improving Air Quality
- Goal 2: Protecting America's Waters
- Goal 3: Cleaning Up Communities and Advancing Sustainable Development
- Goal 4: Ensuring the Safety of Chemicals and Preventing Pollution
- Goal 5: Enforcing Environmental Laws

All Goals	Provided legal counsel pertaining to the Enterprise Network Services procurement to satisfy a time-critical agency-wide requirement for network infrastructure services that will support the EPA's local area network and external network requirements smoothly, efficiently, and cost-effectively. This procurement is essential for continuity of operations with regard to information technology communications, including websites and e-mail, throughout the EPA, and thus is important for all environmental programs and external stakeholders.
Goal 3	Provided legal counsel and support pertaining to the critical procurement of a legislatively-mandated Hazardous Waste Electronic Manifest System that will be developed and maintained through contractor support.
Goal 1	Provided crucial advice regarding the Establishment Clause to various program offices in the agency to ensure compliance with the law. This will avoid engaging in protracted defensive litigation.
All Goals	Established a physical legal presence in Research Triangle Park's Procurement Operations Division by instituting bi-monthly, in-house, office hours; This enabled the procurement office to more efficiently process procurements and ensure they were legally sufficient.
All Goals	Provided on-going legal advice and counsel in support of changes to the agency's remedial services contracts.
All Goals	Provided critical legal counsel and strategic support on a number of external non-discrimination initiatives designed to create a high-performing, model civil rights program; improving engagement with stakeholders; and operational efficiency.
Goal 5	Oversaw the prosecution of patent applications for 20 inventions, including drafting invention claims, filing initial applications and responding to office actions from the U.S. Patent and Trademark Office.
Goal 5	Provided ongoing guidance to the National Risk Management Research Laboratory on sensitive patent licensing matters, including drafting licenses for royalty-free use by local governments and academic researchers that avoid adversely affecting commercial licensees markets.
Goal 5	Provided technical and drafting assistance designed to ensure that U.S. intellectual property rights are preserved in agreements that the agency is entering into with the China Ministry of Science and Technology.
All Goals	Drafted agency-wide guidance on posting copyrighted material on agency web sites.
All Goals	Counseled on, reviewed, revised and rewrote a steady stream of research and development agreements, material transfers and patent licenses, and publication, presentation and non-disclosure agreements.
All Goals	Provided essential legal counseling on eDiscovery issues and assisted with setting up the agency's electronic discovery services.
All Goals	Obtained favorable results in employment law cases filed against the agency either through decisions on the merits or in settlement. These positive outcomes provided both financial and morale benefits to the agency.
All Goals	Issued Confidential Business Information decisions in several complicated cases.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently, there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$2,367.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$1,480.0) This program change provides essential funding for litigation support, training and capacity building to strengthen the agency's response to LER caseloads and FOIA responses.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (EPA's organic statute).

Regional Science and Technology

Program Area: Legal / Science / Regulatory / Economic Review

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$2,262.1</i>	<i>\$1,532.0</i>	<i>\$2,995.0</i>	<i>\$1,463.0</i>
Total Budget Authority / Obligations	\$2,262.1	\$1,532.0	\$2,995.0	\$1,463.0
Total Workyears	1.8	2.0	2.0	0.0

Program Project Description:

The Regional Science and Technology (RS&T) program provides assistance to all of the agency's programs, including but not limited to programs implementing the Resource Conservation and Recovery Act; Toxic Substances Control Act; Clean Water Act; Safe Drinking Water Act; Clean Air Act; and Comprehensive Environmental Response, Compensation and Liability Act. The RS&T program supports the agency's strategic goals by performing laboratory analysis, field monitoring, and sampling investigations in order to provide credible scientific data on environmental pollutants and conditions to agency decision makers. The RS&T program also assists state environmental agencies by providing specialized technical assistance and helping build Tribal capacity for environmental monitoring and assessment.

The RS&T program provides essential expertise and scientific data for a wide array of environmental media, including ambient air; surface, drinking and ground water; soil and sediment; solid and hazardous waste; and biological tissue. The program supports the agency's programs and continuously seeks to realize efficiencies in analysis, field investigations, and data collection. This work differs from the agency's research operations by focusing on the immediate scientific information needed to make short-term decisions and actions, rather than short- or long-term research to guide the agency's long-range regulatory process.

The RS&T program provides expertise in areas such as environmental biology, microbiology, chemistry, field sampling, enforcement and criminal investigations, and quality assurance. The program's applied science expertise is often used to develop, modify, and improve analytical methods for specialized science, such as emerging chemicals of concern, and to provide scientific consultation to agency, state, and Tribal partners. The program supports special or non-routine analytical requests that the EPA cannot readily obtain from other sources and the agency's need to respond to meeting the required timeframes.

Funding for scientific equipment is essential to the program's state-of-the-art operations. New and improved technology strengthens science-based decision-making for regulatory efforts, environmental assessment of contaminants, and development of critical and timely environmental data in response to accidents and natural or man-made disasters. As technology improves, the sensitivity of equipment advances to detect lower levels of contaminants. Newer advanced instrumentation has improved environmental data collection and laboratory analytical capacity and capability.

FY 2017 Activities and Performance Plan:

In FY 2017, resources will continue to support regional implementation of the agency's statutory mandates through laboratory and field operations for environmental sampling and monitoring. Resources also will provide direct laboratory and monitoring support at the local level and improve timely decision-making in regional program management and implementation. Taking this approach enables the agency to address environmental issues specific to particular geographic areas (e.g., energy extraction, mining, wood treating operations, oil refining, specialty manufacturing), natural disasters (e.g. Hurricane Sandy), or homeland security threats.

Regional laboratories provide increased levels of service and meet the analytical needs of the agency's programs by coordinating efforts and optimizing network expertise and assistance. In FY 2017, regional laboratories will continue to coordinate within the Regional Laboratory Network (RLN) to provide needed scientific services. The regional laboratories have the capability to analyze a full suite of contaminants using an array of established methods, including regulatory or guidance methods such as the Resource Conservation Recovery Act and Clean Water and Safe Drinking Water Act methods. Laboratories also utilize new methods based on immediate needs or circumstances. For example, some regional laboratories have analytical expertise unique to a particular regional office and when requested, can quickly modify established methods to address specific or unique needs.

In FY 2017, the RS&T program also will support the risk identification and assessment associated with pesticides, organic chemicals, and other high-risk chemicals, as well as support the agency's science priorities. The agency's mission to protect human health and the environment often requires the availability of scientific data at lower detection levels, which requires specialized equipment.²¹⁵ Almost all scientific instrumentation is computer-controlled or interfaced. As computer technology improves, instrument efficiencies and sensitivity also improve – these advances in technology leading to lower detection levels of contaminants are essential. For example, for some compounds, health-based risk levels are decreasing (e.g., hexavalent chromium). When measuring for these compounds, the instrument detection levels need to be as low as technically feasible, requiring laboratories to modify an existing method, modify existing equipment, or purchase newer instrumentation.

²¹⁵ Some examples of necessary equipment include: sample concentrators; autosamplers; gas and liquid chromatography/mass spectrometry systems; direct mercury analyzers; inductively coupled plasma (metals) analyzers; air toxics sampling equipment; high-resolution equipment; hand-held equipment for screening of high-hazard samples; and various soil and water analyzers.

In FY 2017, resources for the regional laboratories will:

- Enhance agencywide enforcement efforts and enable regional laboratories to perform forensic analysis on a wide variety of samples collected as part of criminal investigations and enforcement actions. These analyses require cutting-edge, high-quality, and defensible laboratory data.
- Support agencywide science priorities by facilitating the abilities of regional laboratories to explore the impacts of emerging contaminants (e.g., pharmaceuticals, personal care products, endocrine disrupting chemicals, flame retardants) and support method development and applied science.
- Support agencywide exploration of Next Generation monitoring techniques (e.g., water monitoring remote sensors, remote sensing buoy passive samplers for air monitoring) and technologies to improve environmental data collection and the resultant outcomes. These new techniques will capture real-time results from field analytical techniques supporting all programs. The regional laboratories can provide a practical application and perspective, as well as assist with new policies regarding this technology.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$1.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs for existing FTE due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$1,462.0) This program change reflects an increase in resources for new equipment purchases and technological upgrades of such items as sample concentrators; mass spectrometry systems; air toxics sampling equipment; high resolution equipment; handheld equipment for screening of high hazard samples; and various soil and water analyzers. The purchasing and upgrading of equipment is an ongoing need essential to providing the agency's workforce with the tools and equipment to meet the needs of the programs.

Statutory Authorities:

Resource Conservation and Recovery Act; Toxic Substances Control Act; Clean Water Act; Safe Drinking Water Act; Clean Air Act; Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); Pollution Prevention Act; Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Integrated Environmental Strategies

Program Area: Legal / Science / Regulatory / Economic Review
 Goal: Cleaning Up Communities and Advancing Sustainable Development
 Objective(s): Promote Sustainable and Livable Communities

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$12,835.1</i>	<i>\$11,491.0</i>	<i>\$27,407.0</i>	<i>\$15,916.0</i>
Total Budget Authority / Obligations	\$12,835.1	\$11,491.0	\$27,407.0	\$15,916.0
Total Workyears	55.1	55.8	55.8	0.0

Program Project Description:

The Integrated Environmental Strategies (IES) program provides tools and resources to help communities become more environmentally and economically resilient, develops strategies to help businesses advance environmental and economic goals, and promotes effective management policies and practices within the agency. IES supports the EPA’s work in the Smart Growth program, as well as activities related to strategic environmental management, sustainable design, and the integration and streamlining of cross-agency priorities. IES also supports the EPA’s work on climate adaptation as part of a larger federal effort to increase the nation’s adaptive capacity and promote a healthy and prosperous nation that is resilient to a changing climate. This work is in high demand by state and local governments, universities, citizen groups, and the business community because of the promise it holds to produce lasting economic, environmental, and public health benefits.

The program supports the agency’s effort to align resources to help environmentally overburdened, underserved, and economically distressed communities to proactively address endemic and emerging environmental challenges in ways that build a community’s long-term sustainability. The Smart Growth program helps community and government leaders protect the environment and public health, build the economy, and improve the quality of life by making smart growth and sustainable design practices commonplace.²¹⁶ Sustainable design refers to designing communities and buildings to minimize impacts to the environment, increase resiliency to natural disasters and extreme weather, and to use energy and other resources efficiently.

Through the Partnership for Sustainable Communities,²¹⁷ the Smart Growth program works with the U.S. Department of Transportation (DOT) and U.S. Department of Housing and Urban Development (HUD) to align housing, transportation, and infrastructure investments and policies and build capacity in communities to grow in a more sustainable and resilient manner. The program also works directly with the Federal Emergency Management Agency (FEMA) and the U.S. Department of Agriculture to help communities identify more sustainable approaches to reducing vulnerability to disasters and fostering economic development. The program also conducts research

²¹⁶ For more information: <http://www.epa.gov/smartgrowth/>.

²¹⁷ For more information: <http://www.sustainablecommunities.gov/>.

and develops tools that help communities make decisions that take into account the connections between development, the environment, the economy, and public health.

The Strategic Environmental Management program ensures strategic and visible progress on three transformational cross-agency priorities:²¹⁸ Making a Visible Difference in Communities, Working Toward a Sustainable Future, and Embracing EPA as a High Performing Organization.

FY 2017 Activities and Performance Plan:

Program activities planned for promoting smart growth and sustainable design include:

Providing Technical Assistance. Technical assistance and training is the cornerstone of the EPA's smart growth approach to address development-related environmental challenges in communities. The objective is to help Tribal, state, and local governments build their own capacity to protect the environment while growing their economies, creating jobs, using energy and other resources more efficiently, and becoming more resilient to economic and climate-related impacts. The Smart Growth program will deliver direct assistance to 270 to 300 additional communities and train experts to assist many more. Funding will allow the EPA to more effectively respond to the long list of assistance needs identified through the Making a Visible Difference in Communities Cross Agency Strategy. These resources also will help leverage additional technical assistance resources from other federal agency partners. The Administration is developing a Memorandum of Agreement to facilitate collaborative interagency assistance programs.

The EPA will continue efforts to deliver targeted assistance to communities as we seek to integrate sustainability strategies into the preparation for and recovery from natural disasters. This work also will support the President's Climate Action Plan by collaborating with FEMA and the National Oceanic and Atmospheric Administration (NOAA) on climate change adaptation planning in communities. Additionally, the EPA will continue to work to better support communities by delivering information and direct technical assistance in ways that maximize the results from limited agency resources.

In FY 2017, as part of an Administration priority, the EPA requests \$2.9 million to assist Alaska Native Villages conduct resiliency planning exercises and to build their capacity to prepare for the effects of climate change, and other environmental challenges. This new line of technical assistance will build upon previous collaborative efforts with FEMA, NOAA and HUD to use effective planning to build more resilient communities. This effort will be implemented in close coordination with the Denali Commission and key federal agency partners.

Conducting Analysis, Developing Tools and Delivering Training. The program will continue agency analyses on emerging trends, innovative practices, and tools that help state and local governments quantify the environmental significance of facility location and site design decisions. The EPA will develop tools to help interested communities incorporate innovative approaches to infrastructure and land development policies that deliver multiple community and quality of life benefits while also managing stormwater, reducing combined sewer overflows, improving local air

²¹⁸ For more information: <http://www2.epa.gov/planandbudget/fy-2015-cross-agency-strategies-action-plans>.

quality, and achieving other environmental benefits. These tools will help communities take into account observed and projected climate and extreme weather trends as they prepare development plans, policies, and codes.

- In FY 2017, the Smart Growth program will work across the EPA’s programs to provide guidance and policy suggestions for how communities can retool infrastructure investment, land use and community design practices, and the development approval process to support implementation of green infrastructure.
- The EPA will deliver two tools -- the Smart Location Calculator and the Infill Development for Distressed Cities Tool --that support decision making for public and private investments in locations that generate less transportation-related greenhouse gas emissions and other pollution. With the General Services Administration (GSA), the EPA will help federal and state agencies use the Smart Location Calculator, a web-based tool developed by the EPA, to evaluate building lease opportunities for public facilities based on the level of transit access and proximity to walkable destinations. The EPA will work with communities to help them use the Infill Development for Distressed Cities Tool to guide them through a wide range of best practices to identify specific strategies that would be most effective for their needs and specific situations. The Infill Development tool is specifically designed to catalyze redevelopment in distressed economies.
- The EPA plans to develop three additional community technical assistance tools in FY 2017 that will help communities: convene key stakeholders, identify near term, intermediate and long term actions they can take, and engage partners who can implement or fund key actions. Once the technical assistance tools for communities have been developed, an in-person training session will be provided to regional and state staff as well as federal field staff through our Building Blocks Training Academy program.²¹⁹ This “train-the-trainers” program uses previously field-tested assessment instruments and instructor guides. This training program allows the EPA to effectively multiply the reach of its assistance by empowering other practitioners and ensuring that hundreds of additional federal agency staff, state, Tribal, regional, and local governments receive assistance. These training resources also will bring together more than a dozen federal agencies engaged in place based work.

Integration of Environmental Efforts in Communities. In FY 2017, as part of the EPA’s Communities Cross-Agency Strategy, the emphasis will be to coordinate and streamline work in communities, to more effectively leverage its ongoing program work and smartly deploy resources. Resources are expected to enhance efforts to coordinate the agency’s community work and support a cadre of agency Community Resource Coordinators who assist overburdened communities and vulnerable populations -- including Tribal populations, rural communities, and children -- to better prepare for implementing community-focused environmental programs. Community Resource Coordinators in each Regional Office will continue to work as a cross-agency, multi-media team to facilitate access to the full range of agency resources and programs to help address the unique needs of each community. The Community Resource Coordinators will provide on-the-ground

²¹⁹ This two day in-person training program is delivered by expert faculty. It is based upon policy and code audit tools developed for our quick turn-around technical assistance program, Building Blocks for Sustainable Communities.

technical assistance to multiple communities, specifically focused on improving community adaptation to observed and projected climate change impacts to build resiliency to extreme weather events.

To support this community coordination work, the agency will deliver innovative, community focused resources that are interactive, user-friendly, and build upon and hone existing platforms. The intent is to both (1) better connect communities to the multitude of agency and other federal resources available to address their needs and (2) enable agency staff and the public to easily access the full range of the EPA's web-based resources. To improve the accessibility of federal and state resources for communities, the EPA will add critical functionality to the Community Resources website²²⁰ and Green Infrastructure Wizard²²¹, as well as expand the "wizard" approach to additional areas such as sustainable materials management. Further investment in these tools will provide mechanisms for both large and small underserved communities to share learning through best practice compendia and two-way sharing approaches.

Engaging Federal Partners. The EPA will continue to partner with other federal agencies to align and leverage investments, grant criteria, and planning requirements to better support community smart growth and sustainable design efforts. The EPA will continue to support the HUD-DOT-EPA Partnership for Sustainable Communities, the cornerstone of our work in engaging federal partners. Other priority partnerships include the White House's Strong Cities, Strong Communities initiative; continued implementation of a memorandum of understanding with FEMA; and expanded collaboration with USDA and the Appalachian Regional Commission.

The EPA and the Partnership for Sustainable Communities will support a broader administration commitment to help communities improve their ability to prepare for and adapt to climate change (including through disaster preparedness and recovery efforts) and increase use of green infrastructure techniques to protect waterways and enhance quality of life. The Partnership will continue to provide direct technical assistance to support local governments as they face challenges with implementation. In FY 2017, the EPA also will work with other federal agencies whose decisions, rules, investments and policies influence where and how development occurs.

Strategic Environmental Management. In FY 2017, the program will provide the agency with management processes, technical expertise, and tools to improve results and program efficiencies and effectiveness. The program will help the agency build, coordinate, and complement approaches to implement priority activities with existing core efforts. Areas of emphasis include integrating sustainability principles into agency activities, expanding the use of Lean government approaches, and program evaluation. Improved program efficiencies resulting from business process improvements and program evaluation tools will enable the agency to more strategically and effectively utilize resources.

The EPA will target sustainability principles in several areas of knowledge including green infrastructure, sustainable materials management, sustainable purchasing, and others. In FY 2017, the agency will explore these areas to see how integration could result in additional environmental benefits. Specifically, in accordance with Executive Order 13693, "Planning for Federal

²²⁰ For more information: <http://www.epa.gov/communities/>.

²²¹ For more information: <http://www.epa.gov/communityhealth/green-infrastructure-wizard>.

Sustainability in the Next Decade”²²² and OMB’s Category Management Initiative²²³, the agency will coordinate across the government with GSA, DOD, DOE, and others on sustainable purchasing to drive and achieve greenhouse gas reductions and other efficiencies. In addition, the agency will work across the EPA and with the international community to focus on resource efficiency and supply chain sustainability. The EPA is particularly focused on engaging with its external partners and stakeholders, including state and local governments, to inform and identify opportunities for progress on these areas. The EPA will use a range of communications tools - such as press releases, fact sheets, videos, web content, and social media - to ensure that sustainability concepts and knowledge are widely shared with the agency’s stakeholders.

In FY 2017, the EPA will expand its Lean efforts as a part of the High Performing Organization Cross-Agency Strategy. Through its Lean efforts, the EPA seeks to eliminate non-value added activities to focus more directly on all tasks that support its mission of protecting public health and the environment. As of December 2015, a subset of EPA’s Lean events have reported a projected average reduction of 45 percent in processing time associated with the outcome of the Lean event. The program will continue to advance business process improvements through mentoring and coaching the EPA’s staff, provide access to process improvement experts, identify projects of high strategic value, summarize results of process improvement events (e.g., time savings and satisfaction rates), and transfer successful approaches across programs and organizations. The EPA will build on its previous investments in Lean by partnering with co-regulators (states, tribes, and local governments) to share Lean results and lessons learned through the Lean Action Board summits and web-based communications.

In FY 2017, the EPA will focus on building upon the agency’s previous success in program evaluation. The agency will target evaluations of priority areas where the most benefits can be realized and where the implementation of evaluations will improve programmatic and process performance. The program will continue to foster a culture of learning and program improvement through additional efforts on synthesizing the outcomes from program evaluation to support the agency’s incorporation of evidence-based decision-making and to help foster a high-performing organization. This expanded effort will include program evaluation efforts and analysis of the EPA’s Lean and process improvement events to enhance the performance of and advance the replication/scale-up of projects and results across the agency.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$542.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs for existing FTE due to adjustments in salary, essential workforce support, and benefits costs.

²²² For more information: <http://www.gpo.gov/fdsys/pkg/FR-2015-03-25/pdf/2015-07016.pdf>.

²²³ For more information: <https://www.whitehouse.gov/sites/default/files/omb/procurement/memo/simplifying-federal-procurement-to-improve-performance-drive-innovation-increase-savings.pdf> and <https://www.whitehouse.gov/sites/default/files/omb/memoranda/2016/m-16-02.pdf>.

- (+\$700.0) This program change reflects an increase for program evaluation efforts across the agency to target evaluations of priority areas where the most benefits can be realized, where implementation of evaluation recommendations will have the most significant impacts, and where learning from one program can inform improvements in others.
- (+\$2,900.0) This program change reflects an increase to assist Alaska Native Villages as they prepare for the effects of climate change and other environmental challenges. These resources will be used to conduct resiliency planning exercises and build capacity.
- (+\$6,715.0) This program change includes an increase for the Non-EPA “Circuit Riders” who will work with the Administration’s existing Place Based Climate Action Champions to provide on-the-ground technical assistance to multiple communities. This funding also supports multi-media climate mitigation, an agency priority.
- (+\$2,582.0) This program change increases resources to focus on agency priorities including expanding Lean government business process improvements. These resources will allow the program to build on initial deployment momentum and enhance program impacts by: applying Lean tools to additional EPA processes; strengthening internal program management structures; and building facilitation and training capacity.
- (+\$2,477.0) This program change increases resources to support core community work, an agency priority outlined in the Communities Cross-Agency Strategy. This includes improving strategic focus and integration of community level efforts across programs on communities/tribes, enhancing agency capacity for local partnerships, engaging with local organizations, and supporting an integrated approach to implementing sustainability principles at the local level across programs.

Statutory Authority:

Clean Water Act (CWA), § 104(b)(3); Clean Air Act (CAA), § 103; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA’s organic statute).

Regulatory/Economic-Management and Analysis

Program Area: Legal / Science / Regulatory / Economic Review

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$14,916.4</i>	<i>\$14,574.0</i>	<i>\$19,074.0</i>	<i>\$4,500.0</i>
Total Budget Authority / Obligations	\$14,916.4	\$14,574.0	\$19,074.0	\$4,500.0
Total Workyears	80.8	81.3	81.3	0.0

Program Project Description:

The Regulatory/Economic, Management and Analysis program uses its resources to ensure that agency regulations comply with statutory and Executive Order (EO) requirements, such as the Congressional Review Act, the Regulatory Flexibility Act (as amended by the Small Business Regulatory Enforcement Fairness Act), and EOs 12866 and 13563 regarding regulatory review. The program is responsible for the routine review of agency regulations and coordinates the agency's review of its existing regulations to identify ways to modify or address regulations that are overly burdensome or need strengthening. As part of these responsibilities, the program assesses and considers impacts of the EPA's regulations on businesses (particularly small businesses), government entities, and the economy more broadly.

Transparency, outreach, improving underlying business processes, and incorporating electronic reporting and consultation also are priorities. For example, one goal is making information on the EPA's upcoming regulatory activities available to the public, states, other agencies, and Congress as soon as possible through a variety of mechanisms, including the EPA website, the *Federal Register*, and the Regulatory Agenda.

The program ensures consistent and appropriate economic analysis of regulatory policy options by reviewing and enhancing economic analyses (including benefit-cost and employment impact analyses) prepared by regulatory programs. The program also develops, identifies, and analyzes regulatory and non-regulatory approaches for consideration in rulemaking; considers interactions between regulatory actions in various program offices from a multi-media perspective; and addresses policy priorities.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue its efforts to assess, review, and improve its regulations while considering costs to businesses, government entities, and the economy, and maximizing the net benefits to protect human health and the environment. Key program activities planned include:

- Managing the agency's internal *Action Development Process*, *Economic Guidelines*, and related requirements (e.g., OMB Circular A-4 on Regulatory Analysis). The EPA will be reviewing and revising its economic guidelines so they remain current with advancements and reflect best practices in the profession.²²⁴
- Actively participating in the development of agency regulatory actions to ensure regulations address statutory and EO directives (e.g., conducting benefit-cost analysis for every economically significant regulation) and policy priorities and providing technical assistance when needed to help meet agency goals, such as finding less burdensome approaches to achieve environmental protection.
- Continuing efforts to develop and evaluate economy-wide modeling for the assessment of economic effects of environmental regulatory options. Little research exists on how to accurately assess the macroeconomic impacts of environmental regulations within a specific industry sector. Current regulatory analysis focuses on a particular regulated sector but is limited in its ability to explore how the benefits and costs of a regulation affect the overall economy. The EPA's Science Advisory Board (SAB) will provide expert advice to the agency on this type of modeling. The SAB's review is anticipated to be completed in FY 2017. Upon completion of this review, the program will develop approaches and data to respond to the SAB's recommendations.
- Serving as the agency's liaison with the Office of the Federal Register by reviewing, editing, and submitting documents for publication so that the public, states, other agencies, and Congress are informed about the EPA's regulatory activities in a timely manner.
- Modernizing existing regulatory development processes to save resources. For example, the EPA is implementing a digital signature process that will eliminate the need to provide hardcopy documents for publication in the *Federal Register*.
- Developing the EPA's Regulatory Agenda.
- Maintaining and upgrading regulatory planning and tracking tools to facilitate timely decisions and coordination across programs. This includes efforts to continue development, begun in FY 2016, of a modernized IT system that will replace and consolidate existing regulatory tracking and reporting systems. Planned improvements in FY 2017 and FY 2018 include streamlined data entry, simplified data extraction for reporting, support for electronic transmission of documents to the Office of the Federal Register, and integration of Information Collection Request (ICR) processing with other regulatory processes. When complete, the new system will allow the agency to modernize data submission and to create consistency in data access and availability, as well as improve collaboration, efficiency, and transparency.
- Serving as the agency's liaison with the Office of Information and Regulatory Affairs (OIRA) within the Office of Management and Budget (OMB) to facilitate review of agency

²²⁴ For more information: <http://yosemite.epa.gov/ee/epa/eed.nsf/webpages/Guidelines.html>.

actions under EO 12866 and lead the EPA's review of regulatory actions from other agencies, departments and draft Executive Orders and Presidential Memoranda.

- Improving agencywide regulatory impact analyses, through the development of improved analytical tools and methods for quantifying the economic costs and benefits of the EPA's regulations (including impacts on small business and government agencies) and enhancing the EPA's understanding of regulatory impacts on job creation and growth when the economy is at less than full employment. These efforts to improve tools for quantification of costs and benefits and employment impacts also address recent GAO recommendations.²²⁵
- Developing, in conjunction with the EPA's Research and Development programs and other agency programs (i.e., air, water, etc.), improved analytical tools to advance the EPA's risk assessment methods used in quantifying human health benefits, focusing on a limited number of the most critical gaps in the EPA's ability to measure non-cancer health effects (e.g., neurotoxicity, premature births, etc.) for regulations in development. The work supports agency efforts to further advance health benefits estimation methods so as to address the National Academy of Science and National Research Council's *Science and Decisions* recommendations for dose-response analysis, including increased use of probabilistic methods.²²⁶
- Participating with the EPA's Water and Research and Development programs in a multi-year research effort initiated in FY 2014 to develop a national water quality benefits model to better estimate the benefits of water quality improvements across the nation. The model will ultimately provide a foundational tool for quantifying the benefits of future water quality regulatory actions. The programs will collaborate (both staff and resources) to complete a broad-based estimation effort that will supply the suite of analytic tools and research needed to assess benefits from national regulations.
- Expanding the effort to develop and apply outcome measures for the EPA's work with communities to better understand where our investments have the biggest impact. The FY 2017 funding will support the revision of the Flexible Framework for Measurement of the EPA's Community Based Initiatives piloted in FY 2015 and its application in a larger number of communities. The Framework will serve as a tool for evaluating and adjusting our strategies. Better measures also will advance the conversations around building more sustainable communities and will help communities build stakeholder support for such work.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

²²⁵ EPA Should Improve Adherence to Guidance for Selected Elements of Regulatory Impact Analyses.

GAO-14-519; Published: Jul 18, 2014. Publicly Released: Aug 11, 2014, <http://www.gao.gov/products/GAO-14-519>.

²²⁶ National Research Council. *Science and Decisions: Advancing Risk Assessment*. Washington, DC: The National Academies Press, 2009.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$744.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs existing FTE due to adjustments in salary, essential workforce support, and benefits.
- (+\$1,576.0) This program change will enable the agency to incorporate recommendations from the National Academy of Sciences and conduct high-quality external technical peer reviews of influential methods and models; supporting efforts to develop analytical tools to improve risk assessment methods used in quantifying human health benefits, particularly to children. This work will include developing new, more accurate methods for assessing cancer and non-cancer risks from toxic chemicals and methods to address uncertainties in risk and economic analyses.
- (+\$575.0) This program change provides additional funding for the “Making a Visible Difference in Communities” initiative to develop a systemized approach to developing metrics and measures. This work will allow the agency to more effectively establish performance measures, identify benchmarks for existing conditions in communities, analyze the effectiveness and impact of its work in communities, and identify areas for improvement.
- (+\$881.0) This program change provides funding to support development of an IT system for regulatory management that replaces existing outdated systems with regulatory management tools that streamline data entry, facilitate electronic workflows and digital signature, incorporate tasking and reporting, and integrate with external systems such as the Federal Docket Management System and the Office of the Federal Register. The new system will allow the agency to improve the quality of data collected about regulatory efforts, modernize data submission to external parties, and create consistency in data access and availability. In addition to these benefits to the agency, the new system will improve public access to information about the EPA’s regulatory efforts and facilitate communication with other federal partners such as the Office of the Federal Register and the Office of Management and Budget.
- (+\$724.0) This program change increase will support the continued refinement of methodologies to estimate costs and benefits of the agency’s water quality rules, including pressing issues like nutrient and sediment loading impacts on major national waterbodies, like the Great Lakes and Chesapeake Bay, as well as evaluating benefits in the nation’s urban waters. The increase also will support efforts to evaluate and use economy-wide modeling approaches designed to examine the distribution of social costs and benefits of the EPA’s regulations, with the work informed by recommendations by the Science Advisory Board on the technical merits, technical challenges, and added quality and value of information produced by economy-wide models.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA’s organic statute).

Science Advisory Board

Program Area: Legal / Science / Regulatory / Economic Review

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$4,248.0</i>	<i>\$3,882.0</i>	<i>\$5,556.0</i>	<i>\$1,674.0</i>
Total Budget Authority / Obligations	\$4,248.0	\$3,882.0	\$5,556.0	\$1,674.0
Total Workyears	19.3	21.6	21.6	0.0

Program Project Description:

Congress established the EPA's Science Advisory Board in 1978 and gave it a broad mandate to advise the Administrator on a wide range of highly visible and important scientific matters to ensure that the EPA's technical products are of the highest quality. The SAB and the Clean Air Scientific Advisory Committee (CASAC), both statutorily mandated chartered Federal Advisory Committees, draw from a balanced range of non-EPA scientists and technical specialists from academia, communities, states, independent research institutions, and industry. This program provides management and technical support to these advisory committees, which provide the EPA's Administrator with independent advice and peer review on scientific and technical aspects of environmental problems, regulations, and research planning.²²⁷

FY 2017 Activities and Performance Plan:

In FY 2017, as based on the agency's need for peer reviews, the EPA's SAB and CASAC will conduct approximately 24 reviews and produce approximately 24 reports. These reports will convey scientific advice on various topics to the Administrator. In FY 2015, the SAB completed 14 reports to the Administrator; these included seven scientific peer reviews of EPA draft products, a joint report with the EPA Board of Scientific Counselors on the Office of Research and Development's strategic research planning for FY 2016-2019, and three reports recommending EPA scientists for Scientific and Technical Achievement Awards (STAA). As directed by its authorizing statute, the SAB also evaluated three Unified Regulatory Agendas to determine the need for future SAB reviews of the science supporting the EPA planned actions. The CASAC completed two reports to the Administrator in FY 2015, providing advice on the science supporting the National Ambient Air Quality Standards for nitrogen oxides. In response to the Agricultural Act of 2014, the EPA initiated a process to form a new standing committee, the Agricultural Science Committee, to advise the chartered SAB on agricultural science issues. This process included a public call for nominations of experts and public opportunity to provide comment on the candidates

²²⁷ For more information: ["http://www.epa.gov/sab/](http://www.epa.gov/sab/), <http://www.epa.gov/casac/>".

for the committee. Many nominations and public comments were received and evaluated, confirming the high level of Congressional and public interest in the committee.

In FY 2017, the EPA will continue its work to support the SAB and CASAC, as well as evaluate Unified Regulatory Agendas, as appropriate. The SAB will provide scientific and technical advice on: (1) highly influential scientific assessments underlying major environmental decisions, including chemical assessments in support of the EPA's Integrated Risk Information Systems (IRIS) program; (2) the technical basis for National Ambient Air Quality Standards for criteria air pollutants (including health-based air quality standards for particulate matter and sulfur oxides, and welfare-based standards for oxides of nitrogen and sulfur); (3) the scientific basis for developing water quality criteria; (4) an analysis of economy-wide modeling of the benefits and costs of environmental regulation; and (5) the other high-priority topics where scientific peer review is required.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$650.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs for existing FTE due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$1,024.0) This program change reflects additional resources to conduct peer reviews, host meetings to assess additional IRIS chemicals, support the advisory activities of the new SAB Agricultural Science Committee, and implement business process improvements to assure logistical support is provided to help the SAB and CASAC adhere to the provisions of the Federal Advisory Committee Act.

Statutory Authority:

Environmental Research, Development, and Demonstration Authorization Act (ERDDAA); Federal Advisory Committee Act (FACA); Clean Air Act.

Program Area: Operations and Administration

Facilities Infrastructure and Operations
Program Area: Operations and Administration

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Inland Oil Spill Programs	\$498.0	\$584.0	\$1,763.0	\$1,179.0
Science & Technology	\$67,222.2	\$68,339.0	\$78,447.0	\$10,108.0
<i>Environmental Program & Management</i>	<i>\$313,026.1</i>	<i>\$311,540.0</i>	<i>\$329,281.0</i>	<i>\$17,741.0</i>
Leaking Underground Storage Tanks	\$757.9	\$783.0	\$1,101.0	\$318.0
Building and Facilities	\$33,326.3	\$35,641.0	\$44,203.0	\$8,562.0
Hazardous Substance Superfund	\$77,680.0	\$74,278.0	\$70,960.0	(\$3,318.0)
Total Budget Authority / Obligations	\$492,510.5	\$491,165.0	\$525,755.0	\$34,590.0
Total Workyears	327.1	350.2	349.9	-0.3

Program Project Description:

Environmental Program and Management (EPM) resources in the Facilities Infrastructure and Operations program fund the agency's rent, utilities, and security. This program also supports centralized administrative activities and support services, including health and safety, environmental compliance and management, facilities maintenance and operations, space planning, sustainable facilities and energy conservation planning and support, property management, printing, mail, and transportation services. Funding is allocated for such services among the major appropriations for the agency.

This program also includes the agency's Protection Services Detail (PSD) that provides physical protection for the Administrator's daily activities and events. The PSD coordinates all personnel and logistical requirements including scheduling, local support, travel arrangements, and the management of special equipment.

FY 2017 Activities and Performance Plan:

As part of the EPA's efforts toward continuing to improve as a High Performing Organization (HPO), the agency reviews space needs and is implementing a long-term space consolidation plan that will reduce the number of occupied facilities, consolidate space within the remaining facilities, and reduce the square footage wherever practical. In FY 2017, the EPA will continue to invest to reconfigure the EPA's workspaces with the goal of reducing long-term rent costs. This work will enable the agency to release office space and reduce costs as well as support the President's June 2010 memorandum on "Disposing of Unneeded Federal Real Estate." Since FY 2012 the EPA has

released over 250 thousand square feet of office space nationwide, resulting in a cumulative annual rent avoidance of nearly \$9.2 million across all appropriations. These savings help offset the EPA’s escalating rent and security costs.

Consolidations and moves also are planned for Potomac Yard North at Headquarters and a set of Regional Offices that will allow the EPA to release another estimated 336 thousand square feet of office space. For FY 2017, the agency is requesting \$173.07 million for rent, \$9.41 million for utilities, and \$26.39 million for security in the EPM appropriation.

In FY 2017, the EPA will continue to improve operating efficiency and encourage the use of advanced technologies and energy sources to meet the goals of Executive Order (EO) 13693,²²⁸ *Planning for Federal Sustainability in the Next Decade*. The agency will attain the EO’s environmental performance goals related to buildings through several initiatives, including: environmental management systems; comprehensive facility energy audits; re-commissioning; and sustainable building design.

EO 13693, *Planning for Federal Sustainability in the Next Decade*, consolidates and revokes numerous previous environmental Executive Orders and Presidential Memoranda and requires additional reductions to greenhouse gas (GHG) emissions. To meet the requirements of EO 13693 the EPA will manage existing building systems to reduce consumption of energy, water, and materials, consolidate and dispose of existing facilities, and optimize real property and portfolio performance. In FY 2017, the agency is targeting to reduce energy utilization (or improve energy efficiency) by approximately 45 billion British Thermal Units or five percent below FY 2015 energy utilization levels. This ongoing effort to become more efficient has yielded impressive results - approximately 32.7 percent less energy used in FY 2015 than in FY 2003, and annual cost savings of \$5.9 million agencywide. Similarly, the EPA has had remarkable success in reducing Scope 1 and 2 greenhouse gas emissions. As of FY 2015, the EPA reduced its Scope 1 and 2 greenhouse gas emissions 63.0 percent lower than emissions in FY 2008. Incremental improvements become more challenging as projects become more complex and resource intensive.

Performance Targets:

Measure	(010) Reduction in Greenhouse Gas (GHG) Scopes 1 & 2 emissions below 2008 baseline.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	1.0	0.4	6.4	12.2	16.3	16.3	20.1	23.0	Percent
Actual	79.5	59	54.1	57.4	59.5	Data Avail 02/2016			

Measure	(098) Reduction in energy consumption below 2003 baseline.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	15	18	21	24	27	27	32.5	35	Percent
Actual	18.3	18.1	23.7	25.6	28.9	Data Avail 02/2016			

²²⁸ For additional information, refer to: <https://www.fedcenter.gov/programs/eo13693/>, *Planning for Federal Sustainability in the Next Decade*.

The EPA has surpassed its initial targets for GHG emissions goal in part due to green power purchases. The EPA's GHG reduction effort is accomplished through a range of energy conservation efforts, including the purchase of renewable energy credits. Information on the agency's energy/GHG reduction initiative can be found in the agency's Strategic Sustainability Performance Plan.²²⁹

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$7,959.0) This net change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs including transit subsidy.
- (+\$8,604.0) This net change to fixed and other costs is due to the recalculation of rent, utility and security (RUS) needs driven largely by a rebounding commercial real estate market.
- (+\$1,191.0) This program change increases funding for the agency's background investigation program. These resources are necessary to support the increased demand for the initiation and adjudication of background investigations. In addition, this change also includes an increase for the regional owned laboratory operations and maintenance for regions 2, 3 and 10.
- (-\$13.0 / -0.1 FTE) This program change decreases funding to reflect efficiencies achieved through a shift in workforce within the Facilities Infrastructure and Operations program.

Statutory Authority:

Federal Property and Administration Services Act; Public Building Act; Robert T. Stafford Disaster Relief and Emergency Assistance Act; Clean Water Act; Clean Air Act; Resource Conservation and Recovery Act (RCRA); Toxic Substances Control Act (TSCA); National Environmental Policy Act (NEPA); Community Environmental Response Facilitation Act (CERFA); Energy Policy Act of 2005; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

²²⁹ For additional information, refer to: <http://www.epa.gov/greeningepa/epa-strategic-sustainability-plans>.

Central Planning, Budgeting, and Finance
Program Area: Operations and Administration

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$74,705.6</i>	<i>\$72,184.0</i>	<i>\$76,674.0</i>	<i>\$4,490.0</i>
Leaking Underground Storage Tanks	\$404.5	\$424.0	\$430.0	\$6.0
Hazardous Substance Superfund	\$23,542.1	\$22,126.0	\$24,025.0	\$1,899.0
Total Budget Authority / Obligations	\$98,652.2	\$94,734.0	\$101,129.0	\$6,395.0
Total Workyears	473.1	493.4	495.4	2.0

Program Project Description:

Activities under the Central Planning, Budgeting and Finance program support the management of integrated planning, budgeting, financial management, performance and accountability processes, and financial systems to ensure effective stewardship of resources. This includes developing, managing, and supporting a performance management system consistent with the Government Performance and Results Modernization Act for the agency that involves strategic planning and accountability for environmental, fiscal, and managerial results; providing policy, systems, training, reports, and oversight essential for the financial operations of the EPA; managing the agencywide Working Capital Fund; providing financial payment and support services for the EPA through three finance centers, as well as specialized fiscal and accounting services for many of the EPA programs; and managing the agency's annual budget process. This program also implements the Digital Accountability and Transparency (DATA) Act of 2014 and Federal Information Technology Acquisition Reform Act (FITARA) of 2015 requirements.

FY 2017 Activities and Performance Plan:

The EPA will continue to provide high-quality resource stewardship to ensure that all agency programs operate with fiscal responsibility and management integrity, are efficiently and consistently delivered nationwide, and demonstrate results. Building on work begun in previous years, the EPA will continue to monitor and strengthen its internal controls. The program will continue to support the agency's Lean efforts to continue to improve as a high performance organization and business process improvement agencywide. To date, the agency has successfully conducted several Lean events to streamline and improve financial stewardship across the agency, including the interagency agreement management process, the unliquidated obligation or deobligation process, and is proceeding with recommendations from the software applications accounting Lean processes. The EPA also will continue to improve accessibility of data to support

accountability, cost accounting, budget and performance integration, and management decision-making.

In FY 2017, the EPA will continue to use the performance metrics and OMB FedStat meetings to answer fundamental business questions to mission-support services and opportunities for service improvements. The program will continue to implement FITARA requirements in accordance with the EPA's Implementation Plan.²³⁰ The Chief Information Officer will continue to be engaged throughout the budget planning process to ensure that IT needs are properly planned and resourced in accordance with FITARA.

In FY 2017, the systems emphasis will be on operations and maintenance of the agency's financial management systems as well as DATA Act coordination and implementation within the defined funding levels. The resources requested for operations and maintenance of the financial systems includes funding for implementing technology refreshments and minor enhancements, renewing software licenses, as well as providing refresher and new user training.

In FY 2017, the EPA will continue to modernize and modify the agency Account Code Structure to improve tracking and reporting capabilities, maximizing the benefits within the Compass financial system. Congressional and OMB requirements will be incorporated and the structure will be simplified, eliminating complicated and conflicting data structures, and allowing for improved agency-level reporting. Coordinating the updated account structure with other changes to the financial systems will create significant programming and implementation efficiencies.

The EPA began utilizing its Budget Formulation System (BFS) for its FY 2017 budget development process. In FY 2017, the EPA will complete the final phase of developing the BFS, replacing the current Budget Automation System. This final phase will include a more streamlined performance module that facilitates the collection and reporting of performance data to meet the OMB and agency requirements. The new system will incorporate the EPA's new account code structure and interface with the EPA's financial system to facilitate loading the agency's budgets. The plan is for the system to be deployed as a cloud service within the EPA, and as a shared service for other agencies.

The EPA is dedicated to reducing fraud, waste, and abuse and strengthening internal controls over improper payments. Since the implementation of the Improper Payments Information Act of 2002, the EPA has reviewed, sampled, and monitored its payments to protect against erroneous payments. The agency's payment streams are consistently well under the government-wide threshold of 1.5 percent and \$10 million of estimated improper payments. The EPA conducts risk assessments in its principal payment streams, including grants, contracts, commodities, payroll, travel, purchase cards, Hurricane Sandy funding, and the Clean and Drinking Water State Revolving Funds. When overpayments are identified, they are promptly recovered. The EPA has expanded its risk assessments, performed statistical sampling, set appropriate reduction/recovery targets, and implemented corrective action plans. The agency conducts these activities to reduce the potential for improper payments and ensure compliance with the Improper Payments Information Act, as amended by the Improper Payments Elimination and Recovery Act of 2010 (P.L. 111-204) and the Improper Payments Elimination and Recovery Act of 2012 (P.L. 112-248).

²³⁰ For more information: <http://www.epa.gov/open/fitara-implementation-plan-and-chief-information-officer-assignment-plan>.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently, there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$4,458.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs. Fixed cost changes also reflects needed updates of agencywide video and teleconferencing equipment in accordance with their replacement schedules to reduce cybersecurity risks.
- (-\$629.0) This realignment of funding reflects the move of the Center for Environmental Finance from the Office of the Chief Financial Officer to Drinking Water and Surface Water Protection Programs to support the new Water Finance Center as part of the water infrastructure investments.
- (+\$661.0) This program change reflects an increase in funding to provide critical contractual resources for the operation and maintenance of financial management systems.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat.2086, as amended by Publ. L. 98-80, 97 Stat. 485 (codified as Title 5 App.) (the EPA's organic statute).

Acquisition Management

Program Area: Operations and Administration

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$31,443.4</i>	<i>\$30,464.0</i>	<i>\$35,298.0</i>	<i>\$4,834.0</i>
Leaking Underground Storage Tanks	\$160.8	\$145.0	\$138.0	(\$7.0)
Hazardous Substance Superfund	\$20,910.2	\$22,461.0	\$24,468.0	\$2,007.0
Total Budget Authority / Obligations	\$52,514.4	\$53,070.0	\$59,904.0	\$6,834.0
Total Workyears	292.2	304.5	304.8	0.3

Program Project Description:

Environmental Program and Management (EPM) resources in the Acquisition Management program support the EPA's contract activities, which foster efficiency and benefit the entire agency through more strategic acquisitions as well as time and cost savings. Sound contract management allows the agency access to specialized expertise and capability for key functions. The Acquisition Management program ensures full competitions, well designed contract provisions and task requirements, and proper oversight over performance period and eventual closeout.

FY 2017 Activities and Performance Plan:

As part of the EPA's efforts toward becoming a High Performing Organization and in accordance with the *Acquisition Workforce Development Strategic Plan*, the EPA will use EPM resources to strengthen its contract management training program, to improve the EPA Acquisition System's user interface, and to recruit, retain, and hire acquisition workforce in line with the Office of Federal Procurement Policy Act, as amended (41 U.S.C. 401 et seq.).

The agency will continue to adapt the EPA's contract writing system, the EPA Acquisition System (EAS) to comply with the Digital Accountability and Transparency Act's (DATA Act) reporting requirements with the inclusion of an additional data field providing each award with a unique identification number. The unique identification number will allow the EPA to correlate and provide a unified reporting of data from its contract writing, grants management, and financial management systems. Other data fields will be adjusted or added as required to comply with DATA Act requirements. EAS is based on the Commercial-Off-The-Shelf software package, PRISM, and the EPA along with other agencies that use PRISM are collaborating with the vendor and other agencies to move in the most cost efficient direction to meet the goals of the DATA Act. In FY

2017, the EPA will continue efforts to modify existing reports and to develop new reports, analyze historical data, re-engineer agency business processes, and expand training opportunities.

The EPA's *Strategic Sourcing Program (SSP)* allows the agency to research, assess, and award contract vehicles that will maximize time and resource savings. The SSP serves as a foundation for effective financial and resource management because it simplifies the acquisition process and reduces costs. In FY 2017, the agency will enhance purchase coordination to improve price uniformity, improve knowledge-sharing, and leverage small business capabilities to meet acquisition goals. Based on the strategic sourcing opportunities identified in the EPA's spend analysis, the agency will establish strategic contract vehicles or approaches in FY 2016 to acquire Information Technology application development and support services, and software.

The long-term SSP plan will transform the agency's acquisition process into a strategically driven function, ensuring maximum value for every acquisition dollar spent. The agency has established a goal of obtaining at least five percent savings for all goods and services. In FY 2015, the EPA saved approximately \$2.5 million from initiatives focused on voice over internet protocol (VOIP), laboratory supplies, print, cellular services, shipping, office supplies, remedial action, equipment maintenance, Microsoft and network services.

The EPA's Acquisition Management office, which is leading the Centers of Expertise in Contracting initiative, finalized a new organization structure in FY 2014 and began transition to the new structure in late FY 2015. The revised structure will realign the agency's contracting functions within Headquarters, and in the EPA Regional Offices to better leverage the agency's limited contracting resources, and improve the timeliness and quality of the agency's contracting operations. This is expected to better support the strategic acquisition of goods and services. In FY 2016, the agency will review and evaluate its achievements from adopting a Centers of Expertise (COE) for contracting approach. The agency will focus on the implementation of cost saving strategies, increased operational efficiencies, and more effective and responsive contracting support. In FY 2017, the EPA will initiate any necessary adjustments identified during the evaluation phase in FY 2016.

Additional benefits of the Centers of Expertise are expected to include opportunities to centralize certain contract planning, placement, and administrative functions and activities to gain efficiencies and improve customer service. Such opportunities include centralizing contracting operations for commonly acquired goods and services like information technology, and certain administrative functions like agencywide closeout activities. Centralizing such activities will increase transparency in acquisition programs and reduce redundant contracts for the same goods and services. Further, it will eliminate non-value added business processes and bring greater consistency to contract procedures. It also will enhance expertise among contracting personnel so they can better understand customers' mission objectives and priorities, the state of the commercial marketplace, and innovative acquisition and management strategies that will greater support the end user.

Finally, the agency will continue to reinforce its contract oversight responsibilities through: the Performance Measurement and Management Program (PMMP), which includes a self-assessment reviews and internal control plan for each contracting office; the associated Contract Management

Assessment Program (CMAP) peer reviews, which are performed once every three years; and the annual entity-level A-123 Acquisition Assessment, based on the General Accountability Office’s (GAO’s) four cornerstones. These programs enable the EPA to identify potential internal control vulnerabilities. In FY 2017, the EPA will continue to perform peer reviews of the agency’s Simplified Acquisition Contracting Officers (SACOs).

In FY 2017, OAM will continue to work with the Chief Information Officer (CIO) to implement the Financial Information Technology Acquisition Reform Act (FITARA) by:

- Avoiding vendor lock-in by letting contracts with multiple vendors or confining the scope of the contract to a limited task;
- Driving down out-year operations and maintenance (O&M) costs;
- Ensuring use of Agile development methodologies;
- Ensuring ease of migration from aging technology platforms;
- Avoiding development of duplicative systems;
- Avoiding development of systems otherwise available via Commercial off the Shelf services (COTS);
- Ensuring proper leveraging of shared services and SharePoint platforms; and
- Developing acquisition vehicles that support the agency in the objectives listed above.

Performance Targets:

Measure	(009) No reduction in percentage of certified acquisition staff (1102).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			335 / 80	323 / 80	85	85	85	85	Number/ Percent
Actual			323/85	285/ 85	93	95			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$1,738.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$2,282.0) This program change reflects an increase of critical resources for EPA to adapt EAS and other agency systems to comply with the DATA Act’s reporting requirements. Due to a change in allocation methodology, the EPA also is required to increase its contribution to the Integrated Acquisition Environment (IAE) Loans and Grants eGov initiative.
- (+\$800.0) This program change reflects an increase to fund a Lean initiative to continue to improve as a high performance organization and support business process changes agencywide. Specifically, this Lean initiative will seek to improve EPA’s category management process. This effort is a priority for the agency as a means of improving its internal processes and those of its state partners.
- (+\$14.0 / +0.1 FTE) This program change reflects an increase to support a Centers of Expertise for a Contracting Regional Virtual Team. The Contracting Regional Virtual

Teams will assist the Regional Offices to better leverage the agency's limited contracting resources, and improve the timeliness and quality of the agency's contracting operations.

Statutory Authority:

Office of Federal Procurement Policy Act; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Financial Assistance Grants / IAG Management

Program Area: Operations and Administration

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$26,333.8	\$25,296.0	\$28,433.0	\$3,137.0
Hazardous Substance Superfund	\$2,778.5	\$2,895.0	\$3,135.0	\$240.0
Total Budget Authority / Obligations	\$29,112.3	\$28,191.0	\$31,568.0	\$3,377.0
Total Workyears	157.1	161.2	161.2	0.0

Program Project Description:

Environmental Program and Management (EPM) resources in the Financial Assistance Grants and Interagency Agreement (IA) Management program support the management of grants and IAs, and suspension and debarment activities. Grants comprise approximately 40 percent of the EPA's budget and the agency places a priority on sound management of these important partnership funds. Resources in this program ensure that the EPA's management of grants and IAs meet the highest fiduciary standards, that grant/IA funding produces measurable results for environmental programs, and that the suspension and debarment program effectively protects the government's business interest.

FY 2017 Activities and Performance Plan:

In accordance with the overarching 2016-2019 Grants Management Plan to be issued in 2016, the EPA will continue to implement the Grants Management Transformation Initiative (GMTI) to achieve efficiencies while enhancing quality and accountability. As part of the GMTI, the EPA will invest to modernize grant and IA IT systems based on three components. First, the EPA will migrate away from aging Lotus Notes technology by deploying the Post-Award and Closeout modules of the Next Generation Grants System (NGGS), which has a low deployment time due to the system's modular architecture. NGGS will demand fewer training resources as the system is based on existing grants system infrastructure. NGGS relies on a flexible platform that will enable it to adapt to changing technology and business processes, and will allow it to easily integrate with other agency systems. The EPA also will develop a new IT system for IAs and establish a new platform for the Grantee Compliance Database.

Second, to eliminate reliance on paper grant files, the agency will move to an electronic system for grants management records. Third, to strengthen grant decision-making, the EPA will enhance the capability of web-based reporting tools such as the Grants DataMart and Quik Reports to provide

real-time information to grant managers. DATA Act provisions will be integrated into the system to support more transparent financial data under this initiative.

In addition to IT-related investments, the GMTI will focus on reducing administrative burden on the EPA and grants' recipients, and on streamlining/standardizing grants management procedures. Specifically, the agency will fully implement: 1) the streamlining reforms in OMB's Uniform Grants Guidance; 2) standardized closeout procedures developed as part of a National Closeout Lean Event; 3) a new Unliquidated Obligation tool that permits quick identification of grants with little or no financial activity; and 4) an expanded Grants Place of Performance (POP) policy, supported by a user-friendly mapping interface, to provide more accurate and useful locational grant data.

To promote grantee accountability, the EPA will continue to conduct pre-award reviews, indirect cost rate and unliquidated obligation reviews, and administrative advanced monitoring reviews. Under the advanced monitoring program, the EPA will randomly select 75 recipients for review. Advanced monitoring reviews will follow enhanced standard operating procedures developed in response to recommendations from the EPA's Office of Inspector General. The EPA also will conduct two to three Management Effectiveness Reviews of selected regional/headquarters offices and assess their programmatic and administrative grants management operations. For IAs, the EPA will continue to administer the IA Shared Service Center and perform annual IA post-award reviews.

The EPA will continue to administer training programs to maintain a skilled grants/IA management workforce, including classroom and on-line training for the agency's grant and IA Project Officers, a comprehensive new training program for the EPA's Grant and IA specialists, and mandatory training for managers and supervisors involved in grants and IA management. Mandatory training will include a new course on Performance Partnership Grants (PPGs) for all EPA personnel involved in the management of State Continuing Environmental Program grants. The EPA also will make the course available to states. The EPA expects this training will result in greater use of PPGs by educating staff on PPG flexibilities and accountability mechanisms. Greater use of PPGs, as opposed to separate stand-alone state grants, will save resources by reducing the number of grants that the EPA must manage. Additionally, in FY 2017, the EPA will fully incorporate in its mandatory training program for non-profit recipients the requirements of OMB's Uniform Grants Guidance along with internal control standards that must be contained in recipient financial management policies and procedures.

The EPA is a recognized leader in suspension and debarment. The agency will continue to make aggressive use of discretionary debarments and suspensions as well as statutory debarments under the Clean Air Act and Clean Water Act to protect the government's business interests. In FY 2017, the EPA Suspension and Debarment Program anticipates processing over 300 Suspension and Debarment cases. Also, the agency will implement a new internet case management system that will facilitate case processing.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently, agencywide performance measures for this specific program are outlined in the EPA's 2009-2013 Grants Management Plan. In FY 2017, the EPA will issue a new Grants Management Plan that will incorporate GMTI themes and performance measures.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$1,081.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$2,056.0) This net program change reflects an increase to support system modernization, which will replace outdated technology and increase efficiencies. In reviewing system options, the EPA selected NGGS because it enabled the agency to avoid costly software development and license fees common in large, administrative systems. The legacy system and underlying systems are approaching end of service and will no longer be supported.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute); Federal Grant and Cooperative Agreement Act; Federal Acquisition Streamlining Act, § 2455.

Human Resources Management

Program Area: Operations and Administration

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$44,408.6</i>	<i>\$43,267.0</i>	<i>\$50,630.0</i>	<i>\$7,363.0</i>
Hazardous Substance Superfund	\$7,683.0	\$6,345.0	\$8,020.0	\$1,675.0
Total Budget Authority / Obligations	\$52,091.6	\$49,612.0	\$58,650.0	\$9,038.0
Total Workyears	217.3	247.1	254.8	7.7

Program Project Description:

Environmental Programs and Management (EPM) resources for the Human Resources Management program support human capital and human resource services throughout the U.S. Environmental Protection Agency. To help the EPA achieve its mission and enhance management and employee satisfaction, the agency continually evaluates and improves human resource functions in outreach, recruitment, hiring, workforce development, and diversity and inclusion. EPM resources also support advisory committee work aimed at managing programs that address scientific and environmental issues.

FY 2017 Activities and Performance Plan:

Human Resources Management touches every part of the agency. Quality staff is critical to maximizing the agency's ability to meet the environmental and human health challenges that face the nation. As part of the agency's efforts toward becoming a High Performing Organization (HPO), the agency will continue to implement the comprehensive hiring reform laid out in the Presidential Memorandum *Improving the Federal Recruitment and Hiring Process*, which required executive departments and agencies to "overhaul the way they recruit and hire our civilian workforce." The key facets of the hiring reform are: ease the hiring process while raising the bar on candidate quality; increase engagement of agency leaders in the recruitment and selection process; and monitor agency efforts to increase the speed and quality of hiring. In addition, the agency will continue to support the President's Management Agenda and improve the efficiency of government by increasing the quality and value of core operations and by enhancing productivity to achieve cost savings in mission-support functions, like human capital. The EPA also will expand its efforts to engage employees through ongoing succession management initiatives that will better define career paths for critical positions identified throughout the agency.

Over the past four years, the agency has averaged approximately 30 Senior Executive Service (SES) vacancies a year. By FY 2016, approximately 45 percent of the agency's senior executives were retirement eligible. In response to the high retirement eligibility of its SES ranks, the agency is developing a cadre of future leaders to move into SES positions and to address the agency's mission-related challenges. As part of this succession planning, in FY 2015, the EPA implemented an SES Candidate Development Program (CDP) to prepare exceptional candidates for executive positions by strengthening their leadership competencies and increasing their awareness of public policy, programs and issues. The agency selected 27 candidates to participate in the CDP. Twelve of the candidates started the CDP in FY 2015 through a partnership with the Department of Treasury Executive Institute's SES CDP. In FY 2016, the EPA partnered with the Department of Interior (DOI) to implement an SES CDP for the remaining applicants.

The agency will continue to implement the EPA University, which will include a central repository for all agency learning and development. The purpose of the EPA University is to share learning opportunities with employees, encourage shared resources and services across the agency and increase agencywide collaboration, resulting in enhanced availability of development resources for all staff. It also will enable flexibility as workforce realignments occur and new skills are needed. This process will continue to support the agency's focus on building a HPO while actively marketing internal technical and core competency learning events. Through the EPA University intranet webpage and a Sharepoint site established in FY 2015, which includes a course catalog of current and future internal course offerings, the agency will promote a wide variety of learning opportunities to employees. Further in FY 2015, as part of the agency migration to the DOI's HR shared service center, approximately 4,500 employees participated in a pilot to analyze and test the functionality of DOI's learning management system. Employees from Regional Offices 5 and 8, Human Resources, and the Enforcement and Compliance Assurance programs are actively engaged in the system and will provide recommendations to DOI before the system is opened to all EPA employees. The agency plans to implement the learning management system by the end of FY 2017.

The agency will continue its focus on Labor and Employee Relations (LER) by facilitating, administering, and/or negotiating national and Headquarters labor agreements and providing advice, guidance and assistance to regional and local level negotiations. The agency is experiencing an increase in the demand for LER services from greater agency activity. Such activities include the scrutiny of management practices, the need for training to address changes to agency practices, compliance training, disciplinary actions, workforce reduction and reorganizations, and space consolidation and telework expansion. LER will offer training on labor relations to managers and supervisors, including employee relations, unfair labor practice avoidance and the negotiated grievance procedure. LER also will provide performance management training to managers and supervisors with a focus on negotiated procedures for monitoring employee performance and providing assistance to employees whose performance has fallen below "fully successful."

In FY 2017, the agency will continue supporting work that ensures diversity in its leadership development training, to enhance workforce retention and strengthen the agency's succession management. The EPA will employ a vibrant and well-trained cadre of Special Emphasis Program Managers that assist in outreach efforts to promote diversity, inclusion and equal employment

opportunities throughout the EPA. In addition, the agency will focus on developing specific metrics to track and measure progress in cultivating a diverse, inclusive and engaged workplace.

The EPA's advisory committees, which operate as a catalyst for public participation in policy development, implementation, and decision making, have proven effective in building consensus among the agency's diverse external partners and stakeholders. The agency will continue to manage participation and collaboration to maximize the value these committees add to important policy considerations. The EPA also will modernize the advisory committee administrative processes by implementing an electronic committee membership nomination and appointment process to improve operational efficiency, effectiveness, accuracy and timeliness.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$3,733.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs and to ensure adequate funding for childcare subsidy, workers compensation, and unemployment compensation.
- (+\$1,408.0 / +7.7 FTE) This program change reflects an increase in resources to strengthen the workforce and to support the additional LER workload. The LER staff is responsible for facilitating, administering, and/or negotiating labor agreements, and providing advice, guidance and assistance to regional and local level negotiations.
- (+\$87.0) This program change includes an increase in contractual services for the EPA's sign language program based on increased demand for sign language translation, a decrease in agency contribution fees associated with the Enterprise Human Resources Initiative (EHRI) eGov initiative, a decrease in agency contribution fees associated with the OPM data breach, and an increase in fees that the IBC charges the EPA for HRLoB.
- (+\$710.0) This program change includes an increase in contractual services for the EPA University, a central repository for all agency learning and development initiatives that will use technology to engage a wider audience of employees in learning and development opportunities. These resources will fund the on-going redesign of the agency's training and development process, including curriculum management, design and evaluation; enhanced coursework; and improved delivery systems.
- (+\$1,425.0) This program change includes an increase in contractual services to maintain basic human resource operations in HQ and regional offices and support on-going national human resource priorities including training, human capital and strategic planning.

Statutory Authority:

Title 5 of the U.S.C.; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA’s organic statute).

Program Area: Pesticides Licensing

Pesticides: Protect Human Health from Pesticide Risk

Program Area: Pesticides Licensing

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$55,204.4	\$57,809.0	\$60,372.0	\$2,563.0
Science & Technology	\$2,880.9	\$3,128.0	\$2,887.0	(\$241.0)
Total Budget Authority / Obligations	\$58,085.3	\$60,937.0	\$63,259.0	\$2,322.0
Total Workyears	395.8	418.7	418.7	0.0

Program Project Description:

Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA), as amended by the Food Quality Protection Act (FQPA) of 1996 and the Pesticide Registration Improvement Extension Act of 2012 (known as PRIA3), the EPA is charged with protecting people from the health risks that pesticide use can pose. FIFRA requires the EPA to register pesticide products before they are allowed to be marketed for use in the United States. Registration is based on review by EPA scientists and decision-makers of scientific data sufficient to demonstrate that the product can perform its intended function without unreasonable adverse effects on people or the environment.

The statutes above charge the EPA with issuing pesticide registrations and setting tolerances (maximum residue levels) for pesticides in food and animal feed and with periodically reviewing the registrations and tolerances that the agency issues, to ensure that public health is adequately protected. The program addresses these requirements by conducting risk assessments using the latest scientific methods for new and existing pesticides. Agency scientists examine the risks that pesticides pose to human health through the diet and through exposure at work, at home, in school, or at play. The EPA pesticide program also reduces the risks of disease by ensuring the efficacy of public health pesticides (pesticides that control pests or bacteria that vector disease or for other recognized health protection uses). The EPA encourages the development and use of safer pesticides and educates pesticide users and the public in general through labeling as well as public outreach.

Pesticide Registration and Tolerance Setting

Under the FFDCA, if a pesticide is to be used in a manner that may result in pesticide residues in food or animal feed, before it can be registered, the EPA must establish a tolerance, or maximum legal residue level or exemption from the requirement of a tolerance, for each affected food or feed commodity. To establish a tolerance, the EPA must find that the residues are “safe,” which, under FFDCA, means that there is a reasonable certainty of no harm to human health from aggregate exposure to the pesticide residue in food and from all other exposure except occupational exposure.

The passage of FQPA in 1996, which amended both FIFRA and FFDCFA, not only introduced this stricter safety standard, it also mandated the consideration of a number of other factors including cumulative and aggregate effects. When assessing a pesticide registration or tolerance, the EPA must consider the cumulative effects of related pesticides with a common mode of toxicity and the potential for endocrine disruption effects, and apply an appropriate safety factor to ensure the protection of infants and children as outlined below. In addition, the EPA must include aggregate exposure, including all dietary exposure, drinking water, and non-occupational exposures. All these pesticide exposures from food, drinking water, and home and garden use must be considered when determining allowable levels of pesticides in food. Since the passage of FQPA, the EPA's risk assessment process must incorporate a 10-fold safety factor (10X) for infants and children unless reliable information in the database on the chemical indicates that it can be reduced or removed. Under FQPA, even the limited, temporary use under an emergency exemption may not be allowed without the establishment of a tolerance.

To comply with statutory mandates, the EPA conducts risk assessments using the latest scientific methods to determine the risks that pesticides pose to human health, including reviewing comprehensive toxicity, residue chemistry, and other data submitted by pesticide manufacturers (registrants) as required by the EPA, and consulting public literature or other sources of supporting information regarding the pesticide's effects or exposure. Toxicity data are used to identify the hazard potential of a pesticide. Residue chemistry data are used to determine the identity and amount of pesticide in or on food. The agency reviews all data to make sure they were developed according to standard practices within the discipline and the EPA's test guidelines. In addition to toxicity and residue chemistry data, the EPA also may use other data to refine and make more realistic exposure assessments for residues on food and exposure to workers, bystanders and people who live, work, play, and go to school in treated areas. For example, to approximate people's actual exposures and potential risks from current uses of a pesticide, the agency scientists incorporate regional exposures (from monitoring and/or modeling results) from residential and drinking water sources, thus accounting for the variation of potential exposure in different parts of the country. This could result in label restrictions in certain areas to reduce the exposure predicted from water. Risk assessments undergo an internal peer review, and regulatory decisions are posted on the Internet for review and comment to ensure that these actions are transparent and stakeholders are engaged in decisions affecting their health and environment. When complex scientific issues arise, the agency consults the FIFRA Scientific Advisory Panel (<http://www.epa.gov/scipoly/sap/>) for independent scientific advice.

Periodic Review of Registrations and Tolerances

Not only must the EPA conduct risk assessments before the initial registration of each pesticide for each use, but the FQPA amendments introduced the requirement that every pesticide registration be reviewed at least every 15 years. This periodic review is accomplished through our Registration Review Program.²³¹ In the interest of efficiency and fairness and to facilitate the assessment of cumulative exposures, the agency reviews certain related pesticides (such as the pyrethroids and pyrethrins, the neonicotinoids, or the fumigants) at the same time. Pesticide cases may be related by chemical class or structure, mode of action, use, or for other reasons.

²³¹ http://www.epa.gov/oppsrrd1/registration_review/highlights.htm.

Ensuring Proper Use and Mitigating Risks of Pesticides through Labeling

Under FIFRA, it is illegal to use a registered pesticide in a manner inconsistent with the label instructions and precautions. Therefore, the EPA uses pesticide labels to indicate what uses are appropriate in order to ensure that the pesticide does not cause unreasonable adverse effects on human health or the environment, as determined by the risk assessment. The EPA pesticide product registrations include required labeling instructions and precautions. When risks are identified during the initial registration or during registration review, the agency may mitigate those risks by requiring label changes, for example, requiring personal protective equipment for applicators, or changing the application method or rate or the time when the treated area may be reentered. Ensuring the proper use of pesticides prevents unnecessary pesticide exposure to the person applying the pesticide and people working, living, or playing nearby. It also prevents excessive residues in the food people eat and in animal feed.

Reducing Pesticide Risks to People through the Registration of Lower Risk Pesticides

To further protect human health, this program emphasizes the use of reduced risk methods of pest control, including the use of reduced risk pesticides and helping growers and other pesticide users learn about new, safer products and methods of using pesticides. The EPA began promoting reduced risk pesticides in 1993 by giving registration priority to pesticides that have lower toxicity to humans and non-target organisms such as birds, fish, and plants; low potential for contaminating groundwater; lower use rates; low pest resistance potential; and compatibility with Integrated Pest Management (IPM).²³² Biological pesticides and biotechnology often represent lower risk solutions to pest problems.

Several other countries and international organizations also have instituted programs to facilitate registering reduced risk pesticides. The EPA works with the international scientific community and the Organization for Economic Cooperation and Development (OECD) member countries to register new reduced risk pesticides and to establish related tolerances (maximum residue limits). Through these efforts, the EPA can help reduce risks to Americans from foods imported from other countries.

Protecting Workers from On-the-Job Pesticide Risks

Millions of America's workers are exposed to pesticides in occupations such as agriculture, lawn care, food preparation, and landscape maintenance. Protecting workers from potential effects of pesticides is an important role of the Pesticide Program. Workers in several occupations may be exposed to pesticides when they prepare pesticides for use, such as by mixing a concentrate with water or loading the pesticide into application equipment; applying pesticides, such as in an agricultural or commercial setting; or when they enter an area where pesticides have been applied to perform allowed tasks such as picking crops.

The Worker Protection Standard (WPS) and the Certification and Training Rule are key elements of the EPA's strategy for reducing occupational exposure to agricultural pesticides. The EPA's

²³² See U.S. Environmental Protection Agency, Pesticides: Health and Safety, Reducing Pesticide Risk internet site: <http://www.epa.gov/pesticides/health/reducing.htm>.

revised WPS, finalized in 2015, will afford farm workers similar health protections to those already enjoyed by others workers in other jobs. In support of the implementation and enforcement of the final regulation in FY 2016, the EPA will: issue revised inspection guidance; revised compliance monitoring strategy and implementation guidance for Regional Offices and States; develop and make available a revised “Quick Reference Guide” & “How to Comply” manual; develop and hold state regulator training courses and webinars; and, develop and issue revised FIFRA cooperative agreement guidance and online train-the-trainer programs. In FY 2017, states, territories and tribes will review and respond to the proposed changes to the Certification and Training regulations and will begin to assess what changes to their certification programs may be needed when the changes to the Certification and Training rule are finalized. The states, territories and tribes will train their program and inspection staff on the final revisions to the Worker Protection Standard, conduct outreach and training programs, and plan for inspections under the new rule. Through the Certification and Training and the Worker Protection programs, the EPA protects workers, pesticide applicators and handlers, and the public from the risks posed by pesticides in their work environments. See <http://www.epa.gov/pesticides/health/protecting-workers.html> for more information.

Preventing Disease through Public Health Pesticides

Antimicrobial pesticides play an important role in public health and safety by killing germs, bacteria, viruses, fungi, protozoa, algae, and slime. Some of these products are used to sterilize hard surfaces in hospitals. Chemical disinfection of hard, non-porous surfaces such as floors, bed rails and tables is one component of the infection control systems in hospitals, food processing operations, and other places where disease-causing microorganisms, such as bacteria and viruses, may be present. In reviewing registrations for antimicrobials, the EPA is required to ensure that antimicrobials maintain their effectiveness.²³³ The EPA’s Antimicrobial Testing Program has been testing hospital sterilants, disinfectants, and tuberculocides since 1991 to help ensure that products in the marketplace meet stringent efficacy standards. Other pesticides also protect public health, such as insecticides and rodenticides that combat insects and other pests that carry diseases such as West Nile virus, Lyme disease, and rabies.

Outreach and Education

Giving priority to reduced risk and Integrated Pest Management (IPM)-friendly pesticides are two steps toward protecting human health. It is important for people using pesticides to be well informed, to understand the importance of reading and following label directions and the importance of proper disposal, and they also need to understand how to protect themselves from pests that can transmit disease. The Pesticide Program invests in environmental education and training efforts for growers, pesticide applicators, and workers, as well as the public in general. The EPA will continue to work to reduce the number and severity of pesticide exposure incidents by developing effective communication, environmental education, and training programs.

²³³FIFRA section 3(h)(3), 7 U.S.C. 136a(h)(3).

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will review and register new pesticides, new uses for existing pesticides, and other registration requests in accordance with statutory requirements. In addition, the agency will be reviewing under the registration review program pesticides that are already in the market against current scientific standards for human health. To further advance the EPA's cross agency strategy of working for environmental justice and children's health, the EPA also will process these registration requests with special consideration for susceptible populations, especially children. Specifically, the EPA will focus on the foods commonly eaten by children in order to reduce children's pesticide exposure where the science identifies potential concerns. The EPA uses data from various sources, including the Pesticide Data Program (PDP) and the National Health and Nutrition Examination Survey (NHANES), to assess children's potential risk from pesticides. Pesticide registration actions focus on the evaluation of pesticide products before they enter the market.²³⁴ The EPA will review pesticide data and impose use restrictions and instructions needed to ensure that pesticides used according to label directions also will not result in unreasonable risk. During its pre-market review, the EPA will consider human health and environmental concerns as well as the pesticide's potential benefits.

The EPA will continue to emphasize the registration of reduced risk pesticides, including biopesticides, in order to provide farmers and other pesticide users with new safer alternatives. In FY 2017, the agency, in collaboration with the United States Department of Agriculture (USDA), will work to ensure that minor use registrations receive appropriate support. The EPA will ensure that needs are met for reduced risk pesticides for minor use crops. Additionally, the EPA will assist farmers and other pesticide users in learning about new, safer products and methods of using existing products through workshops, demonstrations, small grants, and materials available on the website and in print. The EPA also will continue to support biotechnology efforts to educate the American public about pesticides related water quality issues and standards.

During FY 2017, the EPA will continue to review the registrations of existing pesticides and develop work plans for pesticides entering the review pipeline. The priority will be toward reviewing those pesticides where there is indication of a need to mitigate risk. The goal of the registration review process is to review pesticide registrations every fifteen years to ensure that pesticides already in the marketplace meet the most current scientific standards and to address concerns identified after the original registration.²³⁵ The completion of the first round of these reviews is due in FY 2022. This program, as mandated by statute, supports the EPA's priorities including ensuring the safety of chemicals and protecting America's waters. The FY 2017 Budget includes additional resources to support these priorities and increase chemical screening and evaluation activities.

For pesticides registered before October 1, 2007, the EPA has a statutory mandate to make registration review decisions by October 1, 2022. There are a total of 723 such cases. For each case, the steps in this process include, in this order, opening dockets, developing work plans, completing

²³⁴ See U.S. Environmental Protection Agency, Pesticides: Topical & Chemical Fact Sheets, Pesticide Registration Program Internet site: <http://www.epa.gov/pesticides/factsheets/registration.htm>.

²³⁵ See U.S. Environmental Protection Agency, Registration Review Internet site: http://www.epa.gov/oppsrrd1/registration_review/index.htm.

risk assessments, and making decisions regarding any risk management measures. It is important to open dockets and develop work plans for as many cases as possible early in the process so that there is time to complete the risk assessments and make decisions by the 2022 deadline. The agency planned this ramp down in targets for opening dockets and completing work plans so it could focus its resources on completing risk assessments and making decisions to meet its statutory deadline by 2022. The EPA expects to have opened dockets for about 711 of the 723 cases by the end of FY 2017, and expects to have developed work plans for about 702 of the 723 by the end of FY 2017.

In FY 2017, the agency will continue to work toward our commitment to environmental justice and protection of children’s health. The EPA will continue to provide locally-based technical assistance and guidance by partnering with states and tribes on implementation of pesticide decisions. Technical assistance and outreach such as workshops, demonstration projects, briefings, and informational meetings also will continue in areas including pesticide safety training and use of lower risk pesticides.

In keeping with the EPA’s priority of expanding the conversation on the environment, the agency will continue to engage the public, the scientific community, and other stakeholders in its policy development and implementation. This will encourage a reasonable transition for farmers and others from the older, potentially more hazardous pesticides, to the newer pesticides that have been registered using the latest available scientific information.

In FY 2017, the EPA will continue implementing improvements to the Pesticide Registration Information System (PRISM). Work on PRISM and other areas will include streamlining operations and merging compatible and related work areas in order to maximize resources through management efficiencies and direct reporting improvements. The focus of the project is to achieve paperwork burden reduction by converting paper-based processes into electronic processes for the Pesticide program’s regulated entities, creating a streamlined electronic workflow to support pesticide product registration and chemical review, and creating a centralized repository of regulatory decisions and scientific information. Overall, the project will streamline approximately 150 existing business processes.

Performance Targets:

Measure	(012) Percent reduction of children's exposure to rodenticides.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target		10	5	5	10	25	25	25	Percent
Actual		0	5	12	17	24			

Measure	(143) Percentage of agricultural acres treated with reduced-risk pesticides.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	21	21	22	22.5	22.5	22.5	22.5	22.5	Percent
Actual	21	22	22.5	23	Data Avail 10/2016	Data Avail 10/2016			

Measure	(J11) Reduction in moderate to severe exposure incidents associated with organophosphates and carbamate insecticides in the general population.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			10	15	25	30	30	30	Percent
Actual			16	13	20	25			

In FY 2017, the EPA will continue the implementation of FIFRA, FFDCA, PRIA3, FQPA and ESA, fulfilling the agency's commitments to protect human health and the environment through our regulatory programs. In order to provide better accountability, the agency will track these areas through the measures indicated above.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$670.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$1,893.0) This program change reflects an increase to allow the program to ramp up registration review activities to meet statutory deadlines related to pesticide reevaluation.

Statutory Authority:

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Federal Food, Drug, and Cosmetic Act (FFDCA), §408.

Pesticides: Protect the Environment from Pesticide Risk

Program Area: Pesticides Licensing

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$34,816.4</i>	<i>\$37,293.0</i>	<i>\$42,235.0</i>	<i>\$4,942.0</i>
Science & Technology	\$1,900.2	\$2,328.0	\$1,854.0	(\$474.0)
Total Budget Authority / Obligations	\$36,716.6	\$39,621.0	\$44,089.0	\$4,468.0
Total Workyears	273.1	269.3	269.3	0.0

Program Project Description:

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requires the EPA to register a pesticide if, among other things, when used in accordance with labeling and common practices, the product “will also not generally cause unreasonable adverse effects on the environment.” The goal of this program is to protect the environment from the potential risks posed by pesticide use. The EPA must conduct risk assessments before the initial registration of each pesticide for each use, as well as re-evaluate each pesticide at least every 15 years, as required by the Food Quality Protection Act (FQPA). This periodic review is accomplished through the EPA’s Pesticide Registration Review program.

In addition to FIFRA responsibilities, the agency has obligations under the Endangered Species Act (ESA)²³⁶. This includes ensuring that pesticide regulatory decisions also will not destroy or adversely modify designated critical habitat or jeopardize the continued existence of species listed as threatened or endangered by the U.S. Fish and Wildlife Service (FWS) or National Marine Fisheries Service (NMFS) (jointly the Services).

Assessing the Risks Pesticides Pose to the Environment

To accomplish the goals set out in the statutes, the EPA conducts ecological risk assessments²³⁷ to determine what risks are posed by each pesticide to plants, animals, and ecosystems that are not the targets of the pesticide and whether changes are necessary to protect the environment. The EPA has extensive authority to require the submission of data to support its scientific decisions and uses the latest scientific methods to conduct these ecological risk assessments. The agency requires applicants for pesticide registration to conduct and submit a wide range of environmental laboratory and field studies. These studies examine the ecological effects or toxicity of a pesticide and its breakdown products on various terrestrial and aquatic animals and plants, and the chemical fate and transport of the pesticide (how it behaves and where it goes in soil, air, and water resources). The EPA uses these and other data to prepare an environmental fate assessment and a hazard, or ecological effects, assessment that interprets the relevant toxicity information for the pesticide and

²³⁶ <http://www.fws.gov/endangered/laws-policies/section-7.html>.

²³⁷ <http://www.epa.gov/pesticides/ecosystem/ecorisk.htm>.

its degradation products. Using environmental fate data and exposure models, the EPA's scientists estimate exposure of different animals and plants to pesticide residues in the environment. Finally, these scientists integrate the toxicity information with the exposure data to determine the ecological risk from the use of the pesticide, or whether it is safe for the environment and wildlife. These processes are described more fully below.

Assessing Toxicity to Wildlife and Plants

Toxicology studies are carried out on plants and animals that have been chosen for testing because they broadly represent non-target organisms (living things the pesticide is not intended to kill or otherwise control). Animals and plants are exposed to different amounts of a pesticide to determine short- and long-term responses to varying concentrations. Some of the impacts on animals the EPA evaluates are the short- and long-term effects of varying amounts of pesticide exposure to insects and other invertebrates, fish and birds. For plants, the EPA scientists assess how poisonous a pesticide is to plants, how the pesticide affects a seed's ability to germinate and emerge, as well as how healthy and vigorous the plant grows to be. Toxicological testing and scientific measurements are conducted under strict guidelines and approved methods.²³⁸ Exacting standards are necessary for consistency in evaluations of pesticide safety and for comparisons among chemicals.

Determining the Environmental Fate of a Pesticide

After determining the toxicity of a pesticide, it is important to find out what happens to it in the environment after it has been applied, and therefore, how it might affect the environment. Required studies measure the interaction of pesticides with soils, air, sunlight, surface water and ground water. Some of the basic questions that must be answered in these studies are: (1) How fast and by what means does the pesticide degrade? (2) What are the breakdown chemicals? and (3) How much of the pesticide or its breakdown chemicals also will travel from the application site, and where will they accumulate in the environment? These tests include how the pesticide breaks down in water, soil, and light, how easily it evaporates in air and how quickly it travels through soil. The EPA uses these tests to develop estimates of pesticide concentrations in the environment. The EPA scientists evaluate the role of the drift of spray and dust from pesticide applications on pesticide residues that can cause health and environmental effects and property damage.

Putting the Pieces Together

To evaluate a pesticide's environmental risks, the EPA examines all of the toxicity and environmental fate data together to determine what risks its use may pose to the environment. The process of comparing toxicity information and the amount of the pesticide a given organism may be exposed to in the environment is called risk assessment. A pesticide can be toxic at one exposure level, and have little or no effect at another. Thus, the risk assessor's job is to determine the relationship between possible exposure to a pesticide and the resulting harmful effects.

If the ecosystem will not be exposed to levels of a pesticide shown to cause problems, the EPA concludes that the pesticide is not likely to harm plants or wildlife. On the other hand, if the ecosystem exposure levels are suspected or known to produce problems, the program will then

²³⁸ <http://www.epa.gov/raf/publications/guidelines-ecological-risk-assessment.htm>.

work to better understand and reduce the risks to acceptable levels. If the risk assessment indicates a high likelihood of hazard to wildlife, the program may require additional testing, require that the pesticide be applied only by specially-trained people (restricted use), or decide not to allow its use. In addition, the EPA may require monitoring of environmental conditions, such as effects on water sources, or may require additional data from the registrant. Decisions on risk reduction measures are based on a consideration of both pesticide risks and benefits.

The agency reviews all data to make sure they were developed according to standard practices within the discipline and the EPA's test guidelines. Risk assessments are peer reviewed, and regulatory decisions are posted on the Internet for review and comment to ensure that these actions are transparent and stakeholders are engaged in decisions that affect their environment. When complex scientific issues arise, the agency consults the FIFRA Scientific Advisory Panel (<http://www.epa.gov/scipoly/sap/>) for independent scientific advice.

Risk Mitigation

To ensure unreasonable risks are avoided, the EPA may impose risk mitigation measures such as modifying use rates or application methods, restricting uses, or denying uses. In some regulatory decisions, the EPA may determine that uncertainties in the risk determination need to be reduced and may subsequently require monitoring of environmental conditions, such as effects on water sources or the development and submission of additional laboratory or field study data by the pesticide registrant.

The EPA's Pesticide Program has been actively engaged in a number of initiatives to help prevent problems related to the drift of spray and dust from pesticide applications. These initiatives include: broadening the understanding of the science and predictability of pesticide drift based on many new studies; improving the clarity and enforceability of product label use directions and drift restrictions; facilitating the use of drift-reducing application technologies and best management practices to minimize drift; and promoting applicator education and training programs.

Ensuring Proper Pesticide Use through Labeling

Under FIFRA, it is illegal to use a registered pesticide in a manner inconsistent with the label instructions and precautions. The EPA uses pesticide labels to indicate what uses are appropriate and to ensure that the pesticide is used at the application rates and according to the methods and timing approved as a condition of registration. When the EPA registers a pesticide product, it requires specific labeling instructions and precautions. When risks are identified during the initial registration or during registration review, the agency may mitigate those risks by requiring label changes. For example, the EPA may require buffer zones around water sources to prevent contamination of water or endangering aquatic plants and wildlife. Other examples are changing the application method, or rate or timing of applications when pollinators are not present to prevent risks to pollinators such as bees.

Reducing Risk Through the Use of Safer Pesticides and Methods

To further protect the environment, this program²³⁹ emphasizes the use of reduced risk methods of pest control, including the use of reduced risk pesticides and helping growers and other pesticide users learn about new, safer products and methods of using pesticides. The EPA began promoting reduced risk pesticides in 1993 by giving registration priority to pesticides that have lower toxicity to people and non-target organisms such as birds, fish, and plants; low potential for contaminating groundwater; lower use rates; low pest resistance potential; and compatibility with Integrated Pest Management (<http://www.epa.gov/pesticides/ipm/>). Biological pesticides and biotechnology often represent lower risk solutions to pest problems.

Protecting Endangered Species

As noted above, the EPA is responsible for complying with the ESA. Given approximately 1,200 active ingredients in more than 17,000 products – many of which have multiple uses – and approximately 1,200 listed species with diverse biological attributes, habitat requirements, and geographic range, this presents a great challenge. As part of the EPA's determination of whether a pesticide product may be registered for a particular use, the agency assesses whether listed endangered or threatened species or their designated critical habitat may be affected by use of the product. Where risks are identified, the EPA must work with the FWS and the NMFS in a consultation process to ensure these new or existing pesticide registrations also will meet the ESA standard. The EPA's Endangered Species Protection Program (ESPP) helps promote the recovery of listed species by determining whether pesticide use in a certain geographic area may affect any listed species. If limitations on pesticide use are necessary to protect listed species in that area, the information is related through Endangered Species Protection Bulletins. The goal of this program is to carry out our responsibilities under FIFRA in compliance with the ESA, without placing unnecessary burdens on agriculture and other pesticide users.

Minimizing Environmental Impacts through Outreach and Education

Through public outreach, the agency continues to encourage the use of Integrated Pest Management (IPM) and other practices to maximize the benefits pesticides can yield while minimizing the impacts on the environment. The agency develops and disseminates brochures, provides education on potential benefits of IPM, and promotes outreach on the success of IPM to encourage its use.²⁴⁰ To encourage responsible pesticide use that does not endanger the environment, the EPA reaches out to the public through the Internet and to workers and professional pesticide applicators through worker training programs.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA's activities will involve increased efforts on comprehensive risk assessments to protect the environment. For the 723 cases covering all pesticides registered before October 1, 2007, the EPA has a statutory mandate to make registration review decisions by October 1, 2022. For each case, the steps in this process include, in this order, opening dockets, developing

²³⁹ Reducing Pesticide Risk (<http://www.epa.gov/pesticides/health/reducing.htm>).

²⁴⁰ <http://www.epa.gov/pesticides/ipminschoools/implementation.html>.

work plans, completing risk assessments, and making decisions regarding any risk management measures. It is important to open dockets and develop work plans for as many cases as possible early in the process so that there is time to complete the risk assessments and make decisions by the 2022 deadline. The agency planned this ramp down in targets for opening dockets and completing work plans so it could focus its resources on completing risk assessments and making decisions to meet its statutory deadline by 2022. The agency expects to have opened dockets for about 711 of the 723 cases by the end of FY 2017, and expects to have developed work plans for about 702 of the 723 by the end of FY 2017.

While review of pesticides currently in the marketplace, and implementation of decisions made as a result of these reviews, are a necessary element of meeting the EPA's goals, they are not sufficient. Attaining risk reduction would be significantly hampered without availability of alternative products to these pesticides for consumers. Consequently, the success of the Registration program in ensuring the availability of effective alternative products plays a significant role in meeting the environmental outcome of improved ecosystem protection. The EPA also will continue to assist pesticide users in learning about new, safer products and methods of using existing products. The agency also will continue encouraging the use of IPM tools.

Additionally, during registration review, the EPA will support obtaining risk mitigation earlier in the process by encouraging registrants to agree to changes in uses and applications of a pesticide beneficial to the protection of endangered species prior to completion of the EPA's consultations with FWS and NMFS. The EPA has a performance measure that tracks this work: the Percent of registration review chemicals with identified endangered species concerns, for which EPA obtains any mitigation of risk prior to consultation with the U.S. FWS and NMFS (jointly the Services).

Protection of Endangered Species

Under the ESA, federal agencies must ensure that the "actions" they authorize will not result in jeopardy to species listed as endangered or threatened by the Services, or adversely modify designated critical habitat. While the EPA authorizes the sale, distribution, and use of pesticides according to the product labeling the agency also will do more comprehensive risk assessments for registration activities that are protecting endangered species. The EPA is implementing the ESA through registration review. In FY 2017, pesticide registration reviews are expected to require comprehensive environmental assessments, including determining potential endangered species impacts. This effort will continue to expand the program's workload due to the necessity of issuing data call-ins and conducting additional environmental assessments for pesticides already in the review pipeline.

In FY 2017, in cooperation with the Services and the United States Department of Agriculture (USDA), the agency will continue to work toward improving compliance with the ESA. To this end, the agency continues to consider recommendations from the committee of the National Academy of Sciences (NAS) National Research Council regarding scientific and technical issues related to the methods and assumptions used by the EPA, and the services to carry out their joint responsibilities under the ESA and FIFRA. The four agencies jointly asked the NAS to identify approaches to: collect the best available scientific data and information; consider sub-lethal, indirect and cumulative effects; assess the effects of chemical mixtures and inert ingredients; use

models to assist in analyzing the effects of pesticide use; effectively incorporate uncertainties into the evaluations; and use geospatial information and datasets in the course of these assessments. Since receiving the NAS report, the agencies have developed shared scientific approaches and presented those approaches to stakeholders at a virtual nationwide meeting. During FY 2017, the EPA and the Services will jointly apply these approaches to some pesticide risk assessments and, if necessary, to consultations. These initial assessments will apply and improve the shared scientific approaches.

The EPA and the Services also have been collaborating to resolve litigation brought against the EPA for failure to consult and against the Services for failure to complete consultation. The settlement agreements will give the EPA and the Services an opportunity to pilot and implement recommendations from the 2013 NAS report with identified milestones and timelines for completing work products.

The EPA will continue to impose use limitations through appropriate label statements, referring pesticide users to EPA-developed Endangered Species Protection Bulletins, which are available on the Internet via *Bulletins Live!*²⁴¹ These bulletins also will, as appropriate, contain maps of pesticide use limitation areas necessary to ensure protection of listed species and compliance with the ESA. Any such limitations on a pesticide's use will be enforceable under the misuse provisions of FIFRA. Bulletins are a critical mechanism for ensuring protection of listed species from pesticide applications while minimizing the burden on agriculture and other pesticide users by limiting pesticide use in the smallest geographic area necessary to protect the species. In FY 2017, the EPA will continue revising and updating *Bulletins Live!* to provide a more interactive and more geographically discrete platform for pesticide users to understand the use limitations necessary to protect endangered or threatened species.

The agency will continue to provide technical support for compliance with the requirements of the ESA. In FY 2017, the EPA will continue the integration of state-of-the-science models, knowledge bases, and analytic processes to increase productivity and better address the challenge of potential risks of specific pesticides to specific species. Interconnection of the various databases within the program office also will provide improved support to the risk assessment process during registration review by allowing risk assessors to more easily analyze complex scenarios relative to endangered species.

Pollinator Protection

Bees play a critical role in ensuring the production of food. The USDA is leading the federal government's effort to understand the causes of declining pollinator health and identify actions that also will improve pollinator health. The EPA is part of this effort and is focusing on the potential role of pesticides. The EPA's emphasis is to ensure that the pesticides used represent acceptable risks to pollinators and that products are available for commercial bee keepers to manage pests that impact pollinator health. The EPA is working with pesticide registrants to change pesticide labels to reduce acute exposure and ensure that pollinators are protected.

²⁴¹ <http://www.epa.gov/espp/bulletins.htm>.

The EPA is jointly implementing, with Canada and the California Department of Pesticide Regulation, a new pollinator risk assessment framework to ensure that pesticides being considered for registration do not endanger bees. A June 2014 presidential memorandum directed federal agencies to develop a strategy to promote the health of honey bees and other pollinators. Co-chaired by the EPA and the USDA, a pollinator health task force developed this strategy, including a pollinator research action plan, a public education plan, and public-private partnerships. A major focus of the strategy is to increase and improve pollinator habitat. As a part of this strategy, the EPA also will assess the effects of pesticides, including neonicotinoids, on bee and other pollinator health and take action as appropriate to protect pollinators, engage State and Tribal agencies in the development of pollinator protection plans, and expedite review of registration applications for new products targeting pests harmful to pollinators. The EPA also is working with seed companies to develop and implement strategies to reduce the release of pesticide residues during the planting process of treated seed.

Other efforts include working with stakeholders to identify and consolidate Best Management Practices (BMPs) for honey bee health and developing a web page of these BMPs with cooperation from the National Integrated Pest Management Centers and the USDA. The EPA is providing funds to land grant universities to conduct research on alternative pest control methods and BMPs that lower risks to bees while effectively controlling pests.

In 2014, the EPA required changes to pesticide labels for four neonicotinoid insecticides to limit applications to protect bees, as well as provide users of these products with more precise safety information about bees, improving and clarifying the pollinator protection requirements for 240 approved pesticide labels. These changes were made to the pesticide labels for imidacloprid, thiamethoxam, clothianidin, and dinotefuran. In FY 2017, the EPA will continue to require the new pollinator protection labeling for other outdoor foliar products that are acutely toxic to bees.²⁴²

Protection of Water Resources

Reduced concentration of pesticides in water sources is an indication of the effectiveness of the EPA's risk assessment, management, mitigation, and communication activities. Using sampling data collected under the U.S. Geological Survey (USGS) National Water Quality Assessment (NWQA) program for urban watersheds, the EPA will continue to monitor the impact of our regulatory decisions for three priority chemicals – diazinon, chlorpyrifos, and carbaryl. In agricultural watersheds, the program will monitor the impact of our regulatory decisions on azinphos-methyl and chlorpyrifos and consider whether any additional action is necessary.²⁴³ In FY 2017, the agency will continue to work with USGS to develop sampling plans and refine program goals. Water quality is a critical endpoint for measuring exposure and risk to the environment and a measure of the EPA's ability to reduce exposure from these key pesticides of concern.

²⁴² For additional information on EPA's role in pollinator protection see: <http://www2.epa.gov/pollinator-protection/epa-actions-protect-pollinators> and <http://www2.epa.gov/pollinator-protection/new-labeling-neonicotinoid-pesticides>.

²⁴³ Gilliom, R.J., et al. 2006. *The Quality of Our Nation's Waters: Pesticides in the Nation's Streams and Ground Water, 1992–2001*. Reston, Virginia: U.S. Geological Survey Circular 1291, p 171. Available on the Internet at: <http://pubs.usgs.gov/circ/2005/1291/>.

To measure program effectiveness, the EPA tracks reductions of concentrations of these four organophosphate insecticides that most consistently exceeded the EPA's aquatic life benchmarks for aquatic ecosystems²⁴⁴ during the last ten years of monitoring by the USGS NWQA program. The agency will use data from 10 specified sites for urban and 10 specified sites for agricultural sites from the USGS national monitoring sites in the future to provide consistency in data reporting. The monitoring sites were selected based on history of monitoring results, and anticipated consistency in reporting from these national sampling sites. The exceedances are calculated based on the number of exceedances divided by the total number of watersheds. The USGS NAWQA sites selected are the best long term source of surface water monitoring data for a large number of pesticides and their degradates, with consistent QA procedures for both sampling and lab analysis, low detection limits, and have been used by the program for risk assessment work for over the last 15 years. The most sensitive aquatic benchmark for the chemical are posted on the website: <http://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/aquatic-life-benchmarks-pesticide-registration>

Performance Targets:

Measure	(011) Number of Product Reregistration Decisions								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	1,500	1,500	1,200	1,200	900	600	550	600	Decisions
Actual	1,712	1,218	1,255	709	292	562			

Measure	(091) Percent of decisions completed on time (on or before PRIA or negotiated due date).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	99	99	99	99	97.0	96	96	97	Percent
Actual	99.7	98.4	99.1	98.8	85	98.4			

Measure	(164) Number of pesticide registration review dockets opened.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	70	70	70	72	73	73	66	11	Dockets
Actual	75	81	79	77	75	84			

Measure	(230) Number of pesticide registration review final work plans completed.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	70	70	70	72	73	73	75	40	Work Plans
Actual	70	75	70	79	81	89			

Measure	(268) Percent of selected urban watersheds that exceed EPA aquatic life benchmark maximum concentrations for three key pesticides of concern (diazinon, chlorpyrifos and carbaryl).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	5, 0, 20	No Target Established	5, 0, 10	No Target Established	0, 0, 0	No Target Established	0, 0, 0	No Target Established	Percent
Actual	6.7, 0, 33	Biennial	0, 0, 9	Biennial	7, 0, 0	Biennial			

²⁴⁴ <http://www.epa.gov/oppfed1/ecoriskders/aquaticlifebenchmark.htm>

Measure	(269) Percent of selected agricultural watersheds that exceed EPA aquatic life benchmark maximum concentrations for two key pesticides of concern (azinphos-methyl and chlorpyrifos).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	0, 10	No Target Established	0, 10	No Target Established	0, 0	No Target Established	0, 0	No Target Established	Percent
Actual	0, 8	Biennial	7, 7	Biennial	0, 0	Biennial			

Measure	(276) Percent of registration review chemicals with identified endangered species concerns, for which EPA obtains any mitigation of risk prior to consultation with DOC and DOL.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			5	5	15	5	5	5	Percent
Actual			0	0	0	Data Avail 10/2016			

In FY 2017, the EPA will continue the implementation of FIFRA, FFDCa, ESA, and the Pesticide Registration Improvement Extension Act of 2012 (PRIA3)²⁴⁵ in the exercise of the agency's responsibilities for the registration and review activities. As part of the EPA's efforts to improve accountability, the agency will track progress in these areas through the measures above. In addition, the number of assessments also will be tracked as part of the Agency Priority Goal: Assess and reduce risks posed by chemicals and promote the use of safer chemicals in commerce.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$2,004.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$2,938.0) This program change reflects an increase in resources to support the growing workload in registration and registration review actions that involve more complex issues and models required for the ecological risk assessments related to endangered species.

Statutory Authority:

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Endangered Species Act (ESA).

²⁴⁵ <http://www.gpo.gov/fdsys/pkg/PLAW-112publ177.pdf>.

Pesticides: Realize the Value of Pesticide Availability

Program Area: Pesticides Licensing

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$8,642.4	\$6,086.0	\$6,845.0	\$759.0
Science & Technology	\$552.4	\$571.0	\$548.0	(\$23.0)
Total Budget Authority / Obligations	\$9,194.8	\$6,657.0	\$7,393.0	\$736.0
Total Workyears	61.0	46.5	46.5	0.0

Program Project Description:

The primary federal law that governs how the EPA oversees pesticide manufacture, distribution and use in the United States is the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Originally enacted in 1947, this law has been significantly amended several times, most recently by the Food Quality Protection Act of 1996 (FQPA) and the Pesticide Registration Improvement Extension Act of 2012 (PRIA3). FIFRA requires that the EPA register pesticides based on a finding that they will not cause unreasonable adverse effects on people and the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide. Each time the law has been amended, while Congress has strengthened the safety standards of the act, it continues to recognize the benefits of pesticides.

This program seeks to realize the value of pesticides that can be used safely to yield many benefits – among them, to generate the nation’s abundant and wholesome food supply, to protect the public from disease-carrying pests, to protect our environment from the introduction of invasive species from other parts of the world, to kill viruses and bacteria in America’s hospitals, and to protect the nation’s homes and schools from invasive insects, rodents, molds, and other unwelcome guests.

Addressing Special Local Needs

FIFRA Section 24(c), and the EPA’s implementing regulations give states the authority to issue their own state-specific registrations under certain conditions, while the EPA is responsible for overseeing the general program. States may register a new end use product or an additional use of a federally registered pesticide product if the following conditions exist:

- A Special Local Need – an existing or imminent pest problem within a state for which the state lead agency, based on satisfactory supporting information, has determined that an appropriate federally registered pesticide product is not sufficiently available.
- The additional use is covered by any necessary tolerances (maximum legal residue levels) or other clearances under the Federal Food, Drug, and Cosmetic Act (FFDCA).

- Registration for the same use has not previously been denied, disapproved, suspended, or canceled by the EPA or voluntarily canceled by the registrant subsequent to issuance of a notice of intent to cancel because of health or environmental concerns.
- Registration is in accord with the purposes of FIFRA.

These 24(c) registrations become federal registrations in 90 days unless the EPA objects to them. The EPA's role is to ensure that each 24(c) registration meets the requirements of FIFRA.²⁴⁶

Emergency, Quarantine, and Crisis Exemptions

FIFRA Section 18, and the EPA's implementing regulations, authorize the EPA, in the event of an emergency, such as a severe pest infestation, to allow an unregistered use of a pesticide for a limited time if the EPA determines that emergency conditions exist which require such an exemption.²⁴⁷

An "Emergency Condition" is an urgent, non-routine situation that requires the use of a pesticide(s). Emergency exemptions may be requested by any state or federal agency, but typically come from state lead agricultural agencies. The EPA also must establish any necessary tolerances to cover pesticide residues in food, if applicable. Tolerances established for emergency exemption uses are time-limited, corresponding to the time that commodities treated under the exemption might be found in channels of trade.

A second type of emergency exemption is allowed for "public health" emergencies. A state or federal agency may request a public health emergency exemption to control a pest that will cause a significant risk to human health.

The third type of exemption, the "Quarantine" exemption, is allowed to control the introduction or spread of an invasive pest species not previously known to occur in the United States and its territories.

Finally, when the emergency is so immediate that there is not enough time to go through the normal review for an exemption and there is an immediate need, following communication with clearance by the EPA, a state or federal agency may issue a "crisis exemption" allowing the unregistered use to proceed for up to 15 days. During the consultation before the state or federal agency declares a crisis, the EPA performs a review to determine whether there are any apparent concerns, and whether the appropriate safety findings required by FIFRA likely may be made. If the EPA identifies concerns, the crisis exemption may not be allowed unless those concerns can be resolved.

Meeting Agriculture's Need for Safe, Effective Pest Control Products

With the passage of FQPA, Congress acknowledged the importance of and need for "reduced-risk pesticides" and supported expedited agency review to help these pesticides reach the market sooner and replace older and potentially riskier chemicals. The law defines a reduced risk pesticide as one that "may reasonably be expected to accomplish one or more of the following: (1) reduces pesticide risks to human health; (2) reduces pesticide risks to non-target organisms; (3) reduces the potential for contamination of valued, environmental resources, or (4) broadens adoption of Integrated Pest

²⁴⁶ <http://www.epa.gov/opprd001/24c/>.

²⁴⁷ <http://www.epa.gov/opprd001/section18/>.

Management (IPM)²⁴⁸ or makes it more effective.” The EPA developed procedures and guidelines for expedited review of applications for registration or amendments for a reduced risk pesticide. The agency expanded the reduced risk pesticide program to include consideration of new active ingredients, new uses of active ingredients already deemed to be reduced risk, and amendments to all uses deemed to be reduced risk. The EPA gives priority to review of reduced risk pesticides and works with the regulated community and user groups to refine review and registration procedures.

FIFRA’s Version of “Generic” Pesticides

FIFRA authorizes the EPA to register products that are identical to or substantially similar to already registered products (known as “me too” products). Applicants for these substantially similar products may rely on, or “cite” (and offer to pay a fair share for) data already submitted by another registrant. The entry of these new products into the market can cause price reductions resulting from new competition and broader access to products. These price declines generate competition that benefits farmers and other consumers.

“Minor Crops” – Addressing Growers’ Need for Pest Control

The FQPA amendments made special provisions for minor uses of pesticides. Minor uses of pesticides are defined as uses for which pesticide product sales do not provide sufficient economic incentive to justify the costs of developing and maintaining its registrations with the EPA. “Minor” crops include many fruits and vegetables. Minor uses also include use on commercially grown flowers, trees and shrubs, certain applications to major crops such as wheat or corn where the pest problem is not widespread, and many public health applications²⁴⁹.

Some minor uses have been lost through lack of registrant support during the reregistration process, resulting in grower concerns that adequate pest control tools will no longer be available for many minor crops. The agency works closely with the USDA’s Inter-Regional Research Project No. 4 (IR-4)²⁵⁰ to generate residue data for tolerances on minor crops in order to minimize the burden of data generation for minor uses. The EPA and the USDA operate early alert systems to notify growers when a pesticide use for a minor crop is about to be canceled. The EPA provides advance public notice of a proposed cancellation to allow time for another registrant to consider maintaining the pesticide use.

Meeting the Need for Non-agricultural Pesticides

Farmers are not the only ones who need pesticides. Pest control also is needed in our homes, schools, and workplaces. Pesticides control pests that spread disease like West Nile Virus, malaria and rabies, to name a few. They disinfect our swimming pools and sanitize bathrooms; they combat mold and are essential to sterilize surfaces in hospitals and other health care facilities.

²⁴⁸ <http://www.epa.gov/pesticides/factsheets/ipm.htm>).

²⁴⁹ http://www.epa.gov/pesticides/regulating/laws/fqpa/fqpa_accomplishments.htm.

²⁵⁰ http://www.csrees.usda.gov/nea/pest/in_focus/pesticides_if_minor.html).

Outreach and Education

The agency will continue to encourage Integrated Pest Management (IPM), which emphasizes minimizing the use of broad spectrum chemicals and maximizing the use of sanitation, biological controls, and selective methods of application, and it relies on pesticide users being well-informed about the pest control options available and how to best use them. It is not enough to have pesticide products registered to control pest infestations. Pesticide users need to know which pesticides to use, how to use them, and how to maintain the site, so pests do not return. The Pesticide Program is invested in outreach and training efforts for people who use pesticides and the public in general.

FY 2017 Activities and Performance Plan:

The EPA’s statutory and regulatory functions for the pesticide program include registration, product reregistration, registration review, risk reduction, rulemaking, and program management. During FY 2017, the EPA will review and register new pesticides, new uses for existing pesticides, and act on other registration requests in accordance with FIFRA and FFDCA standards as well as PRIA3 timeframes. Many of these actions will be for reduced-risk pesticides, which, once registered and used by consumers, will increase benefits to society. Working together with the affected user communities, through IPM and related activities, the agency plans to accelerate the adoption of these lower-risk products.

The EPA will continue to support implementation of other IPM-related activities. The agency will engage partners in the development of tools and informational brochures to promote IPM efforts and to provide guidance to schools, farmers, other partners, and stakeholders.

Similarly, the agency will continue its work-sharing efforts with its international partners. Through these collaborative activities and resulting international registrations, international trade barriers will be reduced. When nations with whom we trade accept imported crops treated with newer, lower-risk pesticides, domestic users can more readily adopt these newer pesticides into their crop protection programs. Work-sharing efforts also reduce the costs of registration to governments sharing the expenses.

The Section 18 Program provides exemptions to allow growers to use pesticides needed to combat emergency situations. In FY 2017, the EPA will continue to prioritize emergency exemptions. The economic benefit of the Section 18 Program to growers is the avoidance of losses incurred in the absence of pesticides exempted under FIFRA’s emergency exemption provisions.

Performance Targets:

Measure	(240) Maintain timeliness of FIFRA Section 18 Emergency Exemption Decisions								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	45	45	45	45	45	45	45	45	Days
Actual	50	52	43	27	44	45			

The agency is tracking responsiveness to Section 18 emergency situations through a performance measure with the goal of reaching a decision within 45 days of the submission.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$146.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$613.0) This program change reflects an increase in resources for the EPA to more efficiently implement regulatory decisions by launching additional outreach and field training programs.

Statutory Authority:

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Federal Food, Drug, and Cosmetic Act (FFDCA), §408.

Science Policy and Biotechnology

Program Area: Pesticides Licensing

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$1,326.0</i>	<i>\$1,174.0</i>	<i>\$1,444.0</i>	<i>\$270.0</i>
Total Budget Authority / Obligations	\$1,326.0	\$1,174.0	\$1,444.0	\$270.0
Total Workyears	5.8	5.4	5.4	0.0

Program Project Description:

The Science Policy and Biotechnology program provides scientific and policy expertise, coordinates the EPA’s intra/interagency efforts, and facilitates information-sharing related to core science policy issues concerning pesticides and toxic chemicals. Many offices within the EPA regularly address cutting-edge scientific issues including endocrine disruptors and biotechnology products. Coordination among affected offices allows for coherent and consistent scientific policy from a broad agency perspective. In addition, the Science Policy and Biotechnology program provides for independent, external scientific peer review through the Federal Insecticide, Fungicide, and Rodenticide Act Scientific Advisory Panel (FIFRA SAP), a federal advisory committee and the newly-formed Chemical Safety Advisory Committee (CSAC).

FY 2017 Activities and Performance Plan:

The Science Policy and Biotechnology program continues a peer review role, as needed, to evaluate the scientific and technical issues associated with chemical safety and biotechnology, including plant incorporated protectants (PIPs). In addition, other biotechnology issues will be supported by the program when complex decisions require expert scientific advice from an independent scientific peer review panel, or guidance is needed to support science policy.

The FIFRA SAP, operating under the rules and regulations of the Federal Advisory Committee Act, will continue to serve as the primary external independent scientific peer review mechanism for the EPA’s pesticide programs. As the nation’s primary pesticide regulatory agency, the EPA makes decisions on a wide-range of pesticide uses in the U.S. These decisions require that the EPA review scientific data on risks that pesticides pose to wildlife, farm workers, pesticide applicators, sensitive populations, and the general public. The scientific data involved in these decisions are complex, which requires the EPA to seek technical advice from the FIFRA SAP. Scientific peer review is a critical component of the EPA’s use of the best available science.

The FIFRA SAP conducts reviews each year on a variety of scientific topics, including endocrine disruptors and products of biotechnology. In FY 2015, Science Coordination and Policy (OSCP) convened three FIFRA SAP scientific reviews. Specific topics to be placed on the SAP agenda are

usually confirmed a few months in advance of each session and include difficult, new or controversial scientific issues identified in the course of the EPA's Pesticide program activities.

In addition to the FIFRA SAP scientific review activities in FY 2015, OSCP established the Chemical Safety Advisory Committee, a federal advisory committee dedicated to the science underlying the Office of Pollution Prevention and Toxics (OPPT) activities. The federal advisory committee provides independent, expert scientific advice and recommendations to the EPA on OPPT chemical assessments, methodologies, and other complex pollution prevention measures or approaches.

Performance Targets:

Work under this program supports the strategic objective Ensure Chemical Safety. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$200.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$70.0) This program change reflects an increase in resources for the operation of the Chemical Safety Advisory Committee, the newly-formed advisory committee and the program's use of scientific fellows who bring a wealth of knowledge to support the chemical, biological, and toxicological science.

Statutory Authority:

Federal Insecticide Fungicide and Rodenticide Act (FIFRA); Federal Food, Drug and Cosmetics Act (FFDCA), §408.

Program Area: Resource Conservation and Recovery Act (RCRA)

RCRA: Waste Management

Program Area: Resource Conservation and Recovery Act (RCRA)
Goal: Cleaning Up Communities and Advancing Sustainable Development
Objective(s): Preserve Land

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Hazardous Waste Electronic Manifest System Fund	\$1,468.6	\$3,674.0	\$7,433.0	\$3,759.0
<i>Environmental Program & Management</i>	<i>\$58,355.7</i>	<i>\$59,098.0</i>	<i>\$62,842.0</i>	<i>\$3,744.0</i>
Total Budget Authority / Obligations	\$59,824.3	\$62,772.0	\$70,275.0	\$7,503.0
Total Workyears	314.5	332.7	334.7	2.0

Program Project Description:

The EPA’s Waste Management program implements the Resource Conservation and Recovery Act (RCRA) to set national standards for managing hazardous wastes and polychlorinated biphenyls (PCBs). Approximately 60,000 facilities generate and safely manage hazardous waste in the United States.²⁵¹ Eighty percent of the U.S. population lives within 3 miles of one of these facilities,²⁵² making national standards and procedures for managing hazardous wastes necessary.

The Waste Management program safeguards communities and the environment while facilitating commerce by supporting an effective waste management infrastructure. Cradle-to-grave hazardous waste management regulations ensure safe management practices through the entire process of generation, transportation, recycling, treatment, storage, and final disposal. The program increases the capacity for proper hazardous waste management in states by providing grant funding and technical support.

Additionally, the Toxic Substances Control Act (TSCA) PCB cleanup and disposal program is implemented under the Waste Management program to reduce PCB exposure from improper disposal, storage, and spills. The Waste Management program reviews and approves PCB cleanup, storage, and disposal activities. This federal authority is not delegated to state programs. PCBs were banned in 1979, but legacy contamination still exists, and can still be released into the environment from poorly maintained hazardous waste sites that contain them. Examples of how PCBs can still get into the environment include: illegal or improper dumping of PCB wastes; leaks or releases from electrical transformers containing PCBs; and disposal of PCB-containing consumer products into municipal or other landfills not designed to handle hazardous waste.²⁵³ PCBs also may be released into the environment by the burning of some wastes in municipal and industrial incinerators. Progress for PCB cleanup, storage, and disposal activities has been stronger than anticipated. In FY 2015, the number of approvals was 218, exceeding the target of 200.

²⁵¹ Memorandum, February 18, 2014, from Industrial Economics to the EPA, Re: Analysis to Support Assessment of Economic Impacts and Benefits under RCRA Programs: Key Scoping Assessment, Initial Findings and Summary of Available Data (Section 1), pages 5-11.

²⁵² U.S. EPA, Office of Solid Waste and Emergency Response Estimate. 2014. Data collected includes: (1) site information as of the end of FY 2011 from RCRAInfo; and (2) census data from the 2007-2011 American Community Survey.

²⁵³ For additional information, visit: <http://www.epa.gov/epawaste/hazard/tsd/pcbs/about.htm>.

The Waste Management program also complements the work of the EPA's air and water programs by ensuring that the management of hazardous waste generated by air pollution control devices and wastewater treatment systems are protectively and permanently addressed. The RCRA program facilitates the safe management of waste, providing a critical service to the U.S. economy, and in so doing provides jobs to those directly involved in the waste management sector.

FY 2017 Activities and Performance Plan:

The Waste Management program will focus on the following in FY 2017:

Supporting Implementation of RCRA

- Reviewing and approving PCB cleanup, storage, and disposal activities to reduce exposures, particularly in sensitive areas like schools and other public spaces. The EPA prioritizes PCB cleanup approvals and will expedite high priority cleanups or address those unaddressed in a timely fashion.
- Providing technical and implementation assistance and oversight in the areas of permitting facilities that treat, store, and dispose of hazardous waste. This includes working with other EPA offices, states, and other federal agencies to address issues related to management of hazardous waste through standards, regulations, permits, guidance, and training.
- Providing grants and technical waste management assistance to tribes to increase sustainable practices and protect these communities from exposure to toxins from solid and hazardous waste.²⁵⁴
- Providing technical expertise for waste management in natural or man-made disasters. In the event of a disaster, the EPA will provide support to ensure protective means of waste management and disposal by working with states, local government, and other response agencies. This will include proper identification of hazardous wastes and assistance in the proper use of methods.
- Working with states, other federal agencies, and stakeholders on waste management issues associated with unconventional oil and gas production, such as hydraulic fracturing, and other large volume special wastes. This effort will provide assistance to state waste management programs to identify and find safe means for handling these types of waste.
- Educating the public about solid waste reduction through environmental education and training activities.

Modernizing the RCRA Program

- Implementing the new Definition of Solid Waste rule to encourage environmentally-sound hazardous waste recycling. The EPA anticipates this will increase the amount of hazardous

²⁵⁴ Of the 567 federally recognized tribes, as of August 2015, 203 have an integrated waste management plan.

waste recycled in the United States, providing new jobs in this industry, and foster protective practices which will reduce our need for raw materials.

- Identifying non-hazardous secondary materials that are solid waste, providing technical support to the regulated community through determinations about scope applicability.
- Implementing regulations to ensure protective management of coal ash. In response to historic management practices, the agency has identified improved management and disposal practices to ensure people and ecosystems are protected. The EPA will work closely with states to review solid waste management plans to address coal ash management.
- Promulgating and implementing revisions to improve the management of pharmaceutical wastes. This rule will provide needed regulatory relief and create a more efficient system for the safe management of these wastes.
- Continue finalizing updates to the hazardous waste generator program through outreach and by working with states and regulated entities on implementation issues. These updates will allow for improved, up-to-date, efficient changes for generators in response to stakeholder critiques. The EPA expects to finalize the Hazardous Waste Generator Improvements rule in FY 2016.²⁵⁵
- In addition, the program will focus staff resources to continue its work specific to the retail industry, which presents unique issues in regards to hazardous waste generator regulation. In response to EO 13563,²⁵⁶ “Retrospective Review of Regulations”, the EPA identified making the hazardous waste requirements for retail products more effective as one of the priority topics included in the “Improving Our Regulations: Final Plan for Periodic Retrospective Reviews of Existing Regulations.”²⁵⁷

The EPA’s RCRA permitting program works to prevent future contamination and to protect the health of 148 million²⁵⁸ Americans who live within one mile of a hazardous waste management facility. Specifically, the EPA and its state partners issue, update, maintain, and oversee RCRA controls for approximately 20,000 hazardous waste units (e.g., incinerators, landfills, and tanks) located at 6,600 treatment, storage and disposal facilities. The EPA directly implements the entire RCRA program in Iowa and Alaska and provides leadership, work-sharing, and support to the states and territories authorized to implement the permitting program. To ensure RCRA controls remain current and protective, the EPA will work with states to meet the FY 2017 target of implementing permits (both initial approved controls and updated controls) at 115 RCRA hazardous waste management facilities.

²⁵⁵ For additional information, see the online Q&As available for this rulemaking at <http://www.epa.gov/hwgenerators/frequent-questions-about-hazardous-waste-generator-improvements-proposed-rule#q9>.

²⁵⁶ For additional information, visit: <http://www.gpo.gov/fdsys/pkg/FR-2011-01-21/pdf/2011-1385.pdf>.

²⁵⁷ For additional information, visit: <http://www.epa.gov/regdarrt/retrospective/documents/eparetroreviewplan-aug2011.pdf>.

²⁵⁸ Memorandum, February 18, 2014, from Industrial Economics to the EPA, Re: Analysis to Support Assessment of Economic Impacts and Benefits under RCRA Programs: Key Scoping Assessment, Initial Findings and Summary of Available Data (Section 1), pages 5-11.

The majority of facilities that continue to treat, store or dispose of hazardous waste have permits issued under RCRA. The bulk of permitting activity has now shifted to responding to business needs and changes in facility operations while ensuring that the permitted conditions continue to be protective and prevent release. On average, for every new permit issued, there are 141 permit renewals and modifications approved each year.²⁵⁹ Permit conditions initially issued frequently need to be revised to address evolving facility conditions, e.g., responses to business changes and changes in applicable regulatory requirements. Maintaining permits and processing permit modifications are critical in order to enable improved business operations while maintaining protection of the environment.

The EPA continues to provide a significant amount of implementation support for states (e.g., addressing complex regulatory and statutory interpretation issues). The EPA will focus FY 2017 resources on strengthening oversight of state permit programs in the face of resource challenges. Specifically, the EPA will focus on collaborative approaches to enable efficient and effective oversight of RCRA permits through timely identification, prioritization, assessment and resolution of critical issues of national scope, as well as identification of innovative approaches being used that could be shared more broadly. The EPA also will focus FY 2017 resources on developing training curricula and resources for its regional staff and state partners, which will enable effective implementation of the RCRA permitting program in the face of loss of expertise through attrition and retirements.

The agency maintains the national hazardous waste information system, RCRAInfo, which is critical for managing the overall RCRA program. FY 2017 resources will update the underlying technology that supports the RCRAInfo system so that system performance, reliability, and operational costs can be sustained into the future. In addition, RCRAInfo web-based data access capabilities and industry e-reporting functionality will be enhanced leveraging the E-Enterprise portal as appropriate to improve data timeliness and provide better/more usable information to the public.

The National Tribal Caucus (NTC) FY 2016 Addendum on environmental resource needs and recommendations requested that the EPA create a grant program for federally recognized tribes and Tribal consortia in Indian Country and Alaska for solid and hazardous waste management. In FY 2017, the EPA requests additional resources to expand this effort to provide financial assistance to underserved Tribal communities. Grants are needed to support tribes where improper solid waste disposal is posing threats to Tribal members' health through drinking water contamination and direct exposure to toxins and disease. This financial assistance will fund and support a wide variety of Tribal waste management program activities, including the development and implementation of integrated waste management plans, the implementation of sustainable practices such as recycling, source separation, and waste reduction programs, and the assessment and removal of uncontrolled waste disposal sites. We also anticipate that, as available, tribes may match these funds and use innovative approaches to remedy solid waste problems that can be shared with other tribes with similar issues. This program will significantly increase the EPA's ability to assist tribes in reducing and safely managing their solid waste, which will increase the waste management program capacity of tribes. Additionally, the grant program will promote Tribal waste management practices that

²⁵⁹ U.S. EPA, "*Permit Modifications: Safeguarding the Environment in the Face of Changing Business Needs.*" (EPA Publication No. EPA530-R-15-001). Washington, DC. (2015).

protect cultural resources such as medicinal plants, culturally significant animals such as fish and eels, and the food of subsistence hunters and fishers. The EPA will give Tribal grant recipients additional direct technical assistance to ensure that Tribal waste management activities are implemented effectively.

PCB approvals are issued to ensure safe management of wastes and to support cleanup activities. PCB approvals are issued by the EPA, and not delegated to the states. The EPA established a goal for FY 2017 to authorize 200 approvals for cleanup, storage, and disposal activities. The agency has developed a database for tracking PCB approvals and standard language for individual approvals to increase the efficiency and effectiveness of the approval process.

Resources in FY 2017 will develop implementation tools and guidance to enhance protections for communities by improving the effectiveness and pace of approvals for PCB cleanup and disposal. These materials will address issues of national importance, such as PCBs in schools, best management practices for facilities processing used oil, outreach materials to promote community engagement, compilation of annual reports for storage and disposal activities, and demonstration test technical support.

Performance Targets:

Measure	(HW0) Number of hazardous waste facilities with new or updated controls.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	100	100	100	100	100	110	115	115	Facilities
Actual	140	130	117	114	129	120			

Measure	(MW8) Number of tribes covered by an integrated solid waste management plan.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	23	14	3	3	10	10	10	10	Tribes
Actual	23	17	13	26	20	16			

Measure	(PCB) Number of approvals issued for polychlorinated biphenyl (PCB) cleanup, storage and disposal activities.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target					150	200	200	200	Approvals
Actual					254	218			

The performance measure that tracks the number of approvals issued for PCB cleanup, storage and disposal activities has a target of 200 in FY 2017.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$2,116.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$292.0 / +2.0 FTE) This program change reflects an increase in FTE and associated resources that will be used to address the PCB cleanup backlog.

- (+\$1,336.0) This program change enables the EPA to provide essential financial and technical assistance to a wide variety of Tribal waste management programs (e.g. remedying drinking water contamination and direct exposure to toxins and disease) to make a visible difference in Tribal communities.

Statutory Authority:

Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), §§ 3004, 3005, 3024, 8001; Toxic Substances Control Act (TSCA), § 6.

RCRA: Corrective Action

Program Area: Resource Conservation and Recovery Act (RCRA)
Goal: Cleaning Up Communities and Advancing Sustainable Development
Objective(s): Restore Land

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$36,018.5</i>	<i>\$36,930.0</i>	<i>\$37,057.0</i>	<i>\$127.0</i>
Total Budget Authority / Obligations	\$36,018.5	\$36,930.0	\$37,057.0	\$127.0
Total Workyears	202.0	205.4	204.9	-0.5

Program Project Description:

The EPA's Corrective Action program focuses its resources on the 3,779 operating hazardous waste facilities undergoing cleanup. A subset of approximately six thousand facilities with potential corrective action obligations under the Resource Conservation and Recovery Act (RCRA),²⁶⁰ these facilities include some of the most highly contaminated and technically challenging sites the EPA confronts in its cleanup programs. Preventing exposures to unacceptable levels of contamination in soils or contaminated groundwater is a top priority for the program. A successful RCRA Corrective Action program assures that hazardous waste management facilities address contamination during the operational life of the facility when they are financially viable, thereby reducing the likelihood of the site becoming a brownfield or a Superfund site.

In addition to preventing exposures, corrective action cleanup has a proven record of helping revitalize communities and spurring economic development by enabling reuse of land for housing, industrial, or commercial projects. Ridding neighborhoods of underutilized and blighted properties can reduce crime and bolster community pride and well-being, raise property values, address environmental justice issues, as well as create new opportunities for commerce, employment, and property tax revenue.

The EPA works in partnership with states, having authorized 44 states and one territory to directly implement the corrective action program.²⁶¹ The agency continues to provide leadership and support to its state partners and serves as lead regulator at a significant, and increasing, number of facilities.

Over 108 million people live within three miles of a RCRA corrective action facility (roughly 35 percent of the U.S. population). While there is no single way to characterize communities located near these sites, the population residing in close proximity to RCRA's cleanup sites is more

²⁶⁰ The EPA tracks corrective action obligations for RCRA-permitted facilities. There are additional non-permitted facilities that may have corrective action obligations are not tracked by the EPA. The EPA recognizes that the total universe of such facilities or sites "subject to" corrective action is between five and six thousand facilities or sites, and is evaluating this universe to determine if cleanup work is needed. The EPA recently reassessed the baseline of corrective action facilities to include 3,779 facilities for the EPA's FY 2014-2018 Strategic Plan (up from 3,746 facilities in the EPA's previous plan).

²⁶¹ State implementation of the Corrective Action program is funded through the STAG Categorical Grant: Hazardous Waste Financial Assistance and matching State contributions.

minority, low income, linguistically isolated, and less likely to have a high school education than the U.S. population as a whole.²⁶² As a result, these communities may have fewer resources to address concerns about their health and environment. The total area covered by these corrective action sites is approximately 18 million acres.²⁶³ The cost to clean up sites under the RCRA program can vary widely, with some costing less than one million dollars, and others exceeding 50 million dollars. The EPA's obligation is to protect human health and the ecosystem at these facilities during cleanup and for the long-term where waste is managed in place.

In conjunction with the states, the EPA's long-term goal is achieving performance-based cleanup of these facilities; assuring that human exposures are controlled or eliminated; controlling the migration of contaminated groundwater; and where waste is left in place, site appropriate long-term stewardship is conducted, such as maintaining engineering and institutional controls to ensure ongoing protectiveness. Despite the progress in FY 2015 and previous years, there remains a significant workload to be addressed. Currently, only 25 percent of the 3,779 facilities have reached the end goal of completing cleanup, so this leaves over 2,800 facilities still needing oversight and technical support to reach their final goal of completing site-wide cleanup objectives.

The agency maintains a national hazardous waste information system, RCRAInfo, which is critical for managing corrective action and the overall RCRA program (including facility information, financial assurance, permitting, and compliance monitoring and enforcement). RCRAInfo is the database where information collected for the National Biennial RCRA Hazardous Waste Report is uploaded, which is mandated by RCRA Sections 3002 and 3004. In the last biennial cycle there were 16,710 generators of over 35 million tons of hazardous waste.

RCRAInfo tracks the environmental progress of approximately 20,000 hazardous waste units at 6,600 facilities. In addition to providing a national repository of RCRA data, it also serves as the primary operational RCRA data system for many states that do not have their own systems. RCRAInfo provides reporting capabilities and data analysis support to the EPA and the states, and also provides the RCRA data that supports the EPA's site information interfaces for e-Reporting and public access. During the 13 years RCRAInfo has been in use, the agency has updated the system five times to incorporate new data fields, added functional enhancements, and improved the system to keep pace with modern technology. A sixth update, to be available in late FY 2016, will address security vulnerabilities in today's advanced technological environment.

In keeping with the cross-agency strategy Embracing EPA as a High Performing Organization,²⁶⁴ and to improve the accountability, transparency, and effectiveness of RCRA cleanup programs, in FY 2012, the agency initiated an effort using the Lean²⁶⁵ process, focusing on the facility investigations process in two regions. The agency developed tools to increase program efficiencies and initiated pilots to apply those tools and develop lessons learned. In FY 2014, the agency conducted a second Lean effort focusing on remedy selection. During FY 2015, the EPA has nationalized and implemented process improvements identified in these exercises. Additional tools, lessons learned, website materials, and outreach sessions are being used and developed to

²⁶² U.S. EPA, Office of Solid Waste and Emergency Response Estimate. Data collected includes: (1) site information as of the end of FY 2013 from RCRAInfo; and (2) census data from the 2009-2013 American Community Survey.

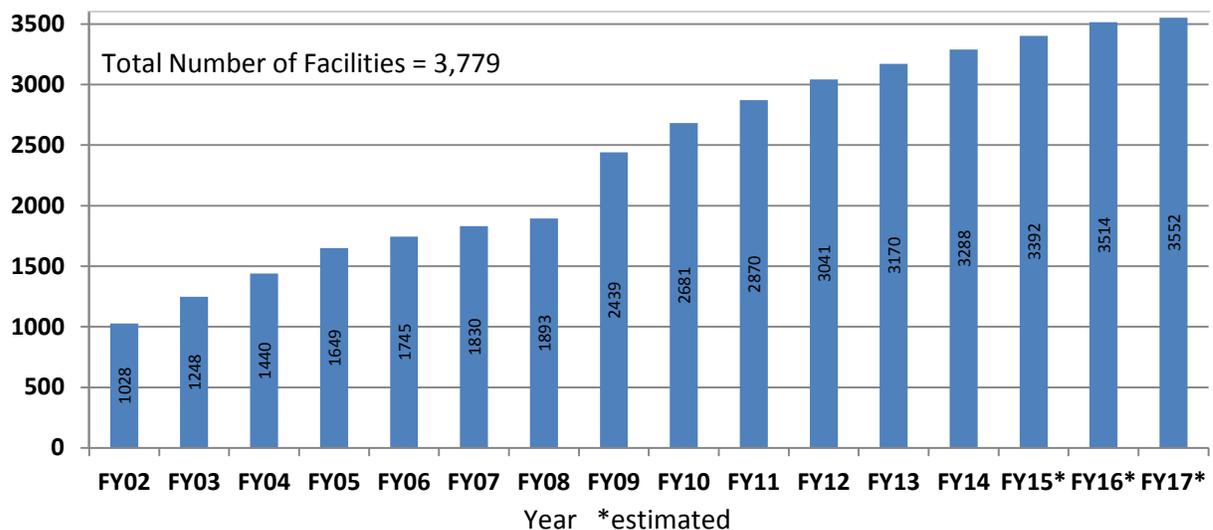
²⁶³ As compiled by RCRA Info.

²⁶⁴ For additional information, refer to: <http://www.epa.gov/sites/production/files/2015-12/documents/fy16-hpo-action-plan.pdf>.

²⁶⁵ Principles of Lean. The Lean Enterprise Institute, Inc. <http://www.lean.org/WhatsLean/Principles.cfm>.

familiarize the EPA Regional Offices and state programs with this effort. The efficiencies identified (e.g., better planning, reduced review time frames, reductions in rework, and better conflict resolution) will help preserve resources and allow the agency and state programs to more effectively focus resources on critical facilities, accelerate cleanups, and put properties back into safe, productive use. The Lean participants estimated, if used properly, the efficiencies identified and associated implementation tools could significantly reduce the investigation timeframes. The benefits of streamlining will lead to faster cleanups (e.g., reduced time frames for facility investigations lead to faster remedy response and prevention of exposures) in both authorized and unauthorized states. Additionally, the approaches being developed to nationalize successful Lean efforts piloted in individual regions will be shared for possible application in other agency program areas.

The EPA has made considerable progress in assuring that prior to completion of cleanups, unacceptable human exposures are eliminated or controlled as soon as possible. As can be seen in the graph below, the RCRA Corrective Action program is making significant progress preventing exposure to toxic chemicals, while longer-term cleanup progresses. At these facilities, the EPA has taken action to address any unacceptable exposures and eliminate acute risks while continuing to pursue long-term, permanent cleanups. By the end of FY 2017, the number of RCRA corrective action facilities designated as having human exposure to contaminants under control will have reached 94 percent.



FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to focus resources on those sites that present the highest risk to human health and the environment and implement actions to end or reduce these threats. The agency will focus on completing site investigations to identify threats, establishing interim remedies to reduce and eliminate exposure; and selecting and constructing safe, effective long-term remedies that maintain the viability of the operating facility. The EPA also will place additional focus on identifying facilities where the corrective action process can be considered completed (i.e., cleanup performance standards have been attained, or no further action is necessary). These planned activities further EPA’s land restoration objectives consistent with the agency’s completed response

to the 2011 General Accountability Office report on RCRA corrective action.²⁶⁶ The report concluded that although early goals have been met, resource and technical challenges will constrain future progress.

In addition, as part of the *FY 2014-2018 Strategic Plan*, the EPA identified aggressive but achievable goals to ensure progress for the corrective action program. Using the FY 2018 goals as a guide, annual targets were identified. Future progress may be hindered by available resources and challenging and complex facilities.

Ensuring sustainable future uses for RCRA corrective action facilities is considered as part of remedy selection process and in the construction of those remedies, and is consistent with the EPA’s emphasis on land restoration in its *FY 2014-2018 Strategic Plan*. As in previous years, the agency continues to provide technical assistance to authorized states in the areas of site characterization, sampling, remedy selection, and long-term stewardship at our baseline facilities. States have been challenged in the cleanup area due to downsizing and are looking to the federal program for assistance. As a result and at the request of states, the EPA has developed, where resources allow, work-sharing agreements with the states, particularly for facilities that have complex issues²⁶⁷ or for more specialty tasks such as ecological risk assessments.

In FY 2017, the EPA will enhance its Lean efforts for the RCRA Corrective Action program. The goal of applying the Lean tools to the RCRA Corrective Action process is to eliminate inefficiencies in the process which will lead to more timely and environmentally sound decisions that ultimately will enhance the cleanup process and better protect human health and the environment. Regional Offices have already found that they are moving facilities through the cleanup process more efficiently since Lean has been initiated.

Performance Targets:

Measure	(CA1) Cumulative percentage of RCRA facilities with human exposures to toxins under control.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	69	72	81	85	87	90	92	94	Percent
Actual	72	77	81	85	87	90			

Measure	(CA2) Cumulative percentage of RCRA facilities with migration of contaminated groundwater under control.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	61	64	69	73	77	80	84	88	Percent
Actual	63	67	72	76	79	82			

Measure	(CA5) Cumulative percentage of RCRA facilities with final remedies constructed.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	35	38	46	51	55	60	64	69	Percent
Actual	37	42	47	51	56	60			

²⁶⁶ Hazardous Waste: Early Goals Have Been Met in EPA’s Corrective Action Program but Resource and Technical Challenges Will Constrain Future Progress (GAO-11-514), July 2011.

²⁶⁷ For example, vapor intrusion, wetlands contamination, or extensive groundwater issues.

Measure	(CA6) Cumulative percentage of RCRA facilities with corrective action performance standards attained.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target					21	24	30	32	Percent
Actual					24	28			

Progress for the contaminated groundwater measure was stronger than anticipated during FY 2015. In order to continue to push progress forward for this measure, the EPA increased the FY 2016 target from 82 percent to 84 percent. Likewise, the progress for the performance standards attained measure was stronger than anticipated during FY 2015. In order to continue to push progress forward for this measure, the EPA increased the FY 2016 target from 25 percent to 30 percent.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$408.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$74.0 / -0.5 FTE) This program change decreases regional funding for RCRA Corrective Action activities.
- (-\$207.0) This program change reflects a reduction in the EPA’s technical support to state partners and may reduce the pace of cleanups including site-wide “RCRA remedy construction” determinations.

Statutory Authority:

Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), §§ 3004, 3005, 8001.

RCRA: Waste Minimization & Recycling

Program Area: Resource Conservation and Recovery Act (RCRA)
Goal: Cleaning Up Communities and Advancing Sustainable Development
Objective(s): Preserve Land

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$8,066.8	\$8,849.0	\$10,809.0	\$1,960.0
Total Budget Authority / Obligations	\$8,066.8	\$8,849.0	\$10,809.0	\$1,960.0
Total Workyears	48.9	51.0	51.0	0.0

Program Project Description:

Americans' use of materials has a strong association with greenhouse gas (GHG) emissions. In 2013, Americans generated about 254 million tons of trash and recycled and composted over 87 million tons of this material, equivalent to a 34.3 percent recycling rate. On average, Americans recycled and composted 1.51 pounds out of our individual waste generation rate of 4.40 pounds per person per day. The EPA's 2009 report, *Opportunities to Reduce Greenhouse Gas Emissions through Materials and Land Management Practices*, shows that approximately 42 percent of U.S. GHG emissions are associated with materials management.²⁶⁸ These GHG emissions can be reduced through materials recovery. In 2013, the 87 million tons of municipal solid waste (MSW) recycled and composted provided an annual reduction of 186 million tons of carbon dioxide equivalent emissions, comparable to the annual emissions from over 39 million passenger cars.²⁶⁹

Through the Resource Conservation and Recovery Act (RCRA) Waste Minimization program, industries are able to become more efficient, which allows the U.S. to conserve virgin resources, including natural resources, fossil fuels, minerals, and precious metals. By undertaking activities such as reducing, reusing, and recycling materials that would otherwise be disposed, industries are saving money and preventing pollution, providing significant benefits to health and the environment. Representative activities include efforts to prevent food waste, increase the recycling of electronics, and reduce waste from federal facilities.

RCRA establishes the EPA's role to promote and encourage the conservation of materials and energy resources to protect human health and the environment in Section 6902 of the law. The EPA invests in Sustainable Materials Management (SMM) in order to efficiently and effectively minimize environmental impacts throughout the full life cycle of materials—from raw materials extraction, through transportation, processing, manufacturing, and use, as well as reuse, recycling, and disposal. The cradle-to-cradle approach highlights ways to reduce waste throughout the life-cycle and to use waste materials as commodities to grow industries and associated jobs.²⁷⁰ Waste management and recycling accounts for \$82 billion dollars in revenue in the U.S., equal to 0.5

²⁶⁸ U.S. EPA, OSWER, OCPA. "Opportunities to Reduce Greenhouse Gas Emissions through Materials and Land Management Practices." September 2009. Online: http://www.epa.gov/oswer/docs/ghg_land_and_materials_management.pdf.

²⁶⁹ For more information, visit: http://www.epa.gov/solidwaste/nonhaz/municipal/pubs/2013_advncng_smm_fs.pdf.

²⁷⁰ There are many articles and reports written on this subject. For example, see More Jobs, Less Pollution (2011) Growing the Recycling Economy in the U.S. <http://www.nrdc.org/business/guides/recyclingreport.asp>.

percent of the annual GDP. Nearly 8.8 million tons of materials and products offset the use of virgin materials through SMM in calendar year 2013, reducing greenhouse gas emissions by more than 27.7 million metric tons of carbon dioxide equivalents (MMTCO₂E)—and providing over \$1.1 billion in benefits to society by reducing damages from climate change.²⁷¹ The SMM program performs a unique coordinating role, bringing together various public and private organizations and providing guidance for redirecting materials away from disposal and towards beneficial uses.

Strong federal leadership and action are needed in this area due to the U.S. economy's impact on global materials usage. U.S. raw material use rose 5.1 times faster than the population in the last century.²⁷² As mentioned previously, the generation, processing, and disposal of materials is associated with 42 percent of U.S. greenhouse gas emissions.²⁷³ Thus, by working closely with U.S. businesses, state and local governments, and the general public, the SMM program strives to implement key aspects of the President's Climate Action Plan:

- Cutting energy waste in businesses and factories;
- Reducing methane emissions;
- Leading at the federal level; and
- Protecting our country from the impacts of climate change.

FY 2017 Activities and Performance Plan:

An effective SMM strategy integrates analysis and information to create a national focus, implements appropriate policies and programs, measures results, and adjusts programs and policies, as appropriate. In FY 2017, the EPA will continue to focus on a small set of results-driven priorities that emphasize the principles of SMM, moving beyond the foundation of environmental protection and toward sustainability. The agency will advance the SMM framework by:

- Providing national leadership and direction on approaches to reduce environmental impacts, including source reduction and safe and effective reuse/recycling of materials;
- Partnering with a wide range of stakeholders (industry, governments, non-profits, and others) to implement efficient and innovative solutions that help protect human health and the environment through improved materials management, reduced waste generation, and improved waste utilization;
- Improving metrics and developing and maintaining measurement tools to prioritize work, identifying critical data gaps, gathering data, and measuring performance in areas such as greenhouse gas reduction and energy savings;
- Providing high-quality scientific information and data; and
- Implementing targeted challenges to encourage participants to modify business practices to increase resource efficiency with demonstrable results.

²⁷¹ Memorandum: From Industrial Economics to EPA, December 14, 2009, Proposed Methodologies for Valuing ORCR Impacts and Benefits. Note: The EPA updated the 2009 results to adjust for inflation establishing the estimates included above.

²⁷² Center for Sustainable Systems, U.S. Material Factsheets (2010) and USGS (2007) *Effects of Regulation and Technology on End Uses of Nonfuel Mineral Commodities in the United States*.

²⁷³ U.S. EPA, OSWER, OCPA. "Opportunities to Reduce Greenhouse Gas Emissions through Materials and Land Management Practices." September 2009. Online: http://www.epa.gov/oswer/docs/ghg_land_and_materials_management.pdf.

In FY 2017, the EPA will continue to promote the SMM approach in high priority areas, which were selected based on an analysis of opportunities for reducing environmental impacts in *Sustainable Materials Management: The Road Ahead*.²⁷⁴ The agency will continue to support the advancement of SMM programs at the state and community levels, as part of the agency's cross-agency strategy Working Toward a Sustainable Future. Representative activities include:

- Sustainable Food Management – The EPA continues to focus on preventing food waste through improved purchasing practices and increasing food donation and composting. The Food Recovery Challenge²⁷⁵ encourages participants to reduce as much of their food waste as possible.²⁷⁶ The largest generators of food waste – restaurants, universities, K-12 schools, events/sports venues, and grocery stores are targeted. In 2014, Food Recovery Challenge participants reported a total of 605,928 tons of wasted food diverted from landfills. For example, this included 85,817 tons of wasted food prevented through source reduction, 88,579 tons of edible food donated to feed people, 158,735 tons of wasted food sent to feed animals, and 38,187 tons of food sent for composting. In FY 2017, the EPA will continue to emphasize work with the largest generators of wasted food. In addition, public education and outreach efforts will be expanded to additional sectors and consumers.
- Used Electronics –The EPA is implementing commitments under the National Strategy for Electronics Stewardship,²⁷⁷ including working to increase the amount of used electronics managed by third-party certified electronics recyclers through the EPA's Electronics Challenge.²⁷⁸ Since the release of the National Strategy in calendar year 2011, there has been a 360 percent increase in the number of certified recyclers. In addition, certified recyclers can now be found in 45 states. In calendar year 2014, SMM Electronics Challenge participants diverted 221,193 metric tons of end-of life-electronics from the landfill, of which 99.7 percent went through third-party certified electronics recyclers. In FY 2017, the EPA will continue implementation of the Electronics Challenge building on FY 2016 achievements in a number of participating organizations and overall tonnage of electronics in the U.S. recycled by third-party certified electronics recyclers.
- Federal Government – The federal government occupies nearly 500,000 buildings, operates more than 600,000 vehicles, employs more than 1.8 million civilians, and purchases more than \$500 billion per year in goods and services.²⁷⁹ In FY 2017, the EPA will continue to lead by example through its Federal Green Challenge²⁸⁰ and will help other federal agencies adopt SMM approaches to reduce their environmental footprint, including the reduction of greenhouse gas emissions.²⁸¹ The EPA also will explore the application of the SMM approach into other high priority sectors, based on lessons learned from the first two years of the national SMM program and re-evaluation of *The Road Ahead*. Through the Federal

²⁷⁴ For more information, visit: <http://www.epa.gov/epawaste/conservesmm/pdf/vision2.pdf>.

²⁷⁵ For more information, visit: <http://www.epa.gov/wastes/conservesmm/foodrecovery/index.htm>.

²⁷⁶ For more information, visit: <http://www.epa.gov/waste/conservesmm/foodwaste/>.

²⁷⁷ In July 2011, the National Strategy for Electronics Stewardship established a framework for responsible electronics design, purchasing, management, and recycling. See <http://www.epa.gov/osw/conservesmm/materials/ecycling/taskforce/>.

²⁷⁸ For more information, visit: <http://epa.gov/smm/electronics/index.htm>.

²⁷⁹ For more information, visit: http://www.whitehouse.gov/the_press_office/President-Obama-signs-an-Executive-Order-Focused-on-Federal-Leadership-in-Environmental-Energy-and-Economic-Performance.

²⁸⁰ For more information, visit: <http://www.epa.gov/federalgreenchallenge/>.

²⁸¹ For more information, visit: <http://www.gpo.gov/fdsys/pkg/FR-2009-10-08/pdf/E9-24518.pdf>.

Green Challenge, in 2014 federal facilities participating in the challenge reported diverting 390,000 tons of waste from landfills, saved 80 million gallons of water, avoided purchasing 15,000 pounds of paper, reduced fleet distance traveled by 12.3 million miles, saved 107 million ft² of natural gas, and sent 457 tons of end of life electronics to third party certified recyclers. Combined, these efforts resulted in an estimated cost savings of more than \$24 million to U.S. taxpayers.²⁸²

During FY 2015, the SMM program developed a Strategic Plan for FYs 2017-2022. In addition to the categories listed above, the plan foresees work on:

- The Built Environment – Investment in repairing or replacing the nation’s aging bridges, levees, roads, water and wastewater systems, ports, railways, buildings and other public infrastructure is expected to continue to be a top U.S. priority for some time. The range of materials, goods, and services used to construct, maintain, repair, and renovate the built environment is complex, involving—directly or indirectly—almost every sector of the U.S. economy. Increasing the safe disposal, reuse and recycling of building materials and debris presents a challenge and opportunity for the EPA’s influence in adoption of sustainable building practices, use of resilient materials and designs, and incorporation of the newest sustainable technology.
- Sustainable Packaging – Packaging comprises the overwhelming majority of what is recycled from MSW and therefore presents a significant opportunity for the application of SMM approaches. The EPA’s activities could facilitate doubling the recycling rate of plastic packaging (PET and HDPE) and increasing the recycling rate of aluminum, paper and glass packaging by 50 percent in seven years (assuming consistent funding for a period of 7 years).

In FY 2017, the EPA requests a total of \$1.6 million to support the EPA’s investment in climate mitigation through waste program activities to reduce greenhouse gas emissions (GHG). The agency’s air programs are making progress addressing GHG emissions from power plants, vehicles, oil, and gas operations; however, further efforts are required to put the country on an emissions trajectory consistent with the President’s long-term climate goals. These funds will be provided via a grant program and focus on: increasing the recycling rates for containers and packaging; enhancing and expanding results-driven programs; working with the public and/or private sector to provide funding such as zero-interest rate loans to assist states and local governments and NGOs focused on infrastructure development and behavior change; and providing technical assistance to recycling programs. The EPA also will work with additional stakeholders to ensure consistent recycling guidance, identify gaps and recycling barriers, and transfer best practices. Grant recipients will report results beyond one year in order to document changes in recycling rates, the period of reporting to be determined in each grant.

Reliable measurement of waste generation, composition, use and disposition of municipal waste (e.g., steel, glass, aluminum, paper, and plastic) is critical to targeting program efforts, measuring benefits and developing markets. The EPA will improve and enhance measurement methodologies and data in key SMM focus areas (e.g., food, electronics, federal government, and construction and

²⁸² These figures were reported to the EPA by federal facilities participating in the Federal Green Challenge during FY 2012.

demolition debris), as improvements are made to the annual *Municipal Solid Waste Characterization Report*, which is the national source of this data. Additional enhancements will include state level data, lifecycle materials data, and improved recycling data.

In FY 2017, the EPA will continue to work toward developing more effective business practices to improve performance, and find efficiencies through program outreach and integrating activities, through such programs as the Federal Green Challenge. The EPA also will continue efforts to leverage climate mitigation activities through waste program activities to generate substantial GHG reductions. SMM activities will achieve substantial, tangible results in coming years, including money savings for the federal government.

Performance Targets:

Measure	(SM1) Tons of materials and products offsetting use of virgin resources through sustainable materials management.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			8,549,502	8,501,537	8,603,033	9,346,830	9,450,000	9,550,000	Tons
Actual			9,002,588	8,795,750	Data Avail 5/2016	Data Avail 5/2017			

The EPA has set its FY 2017 performance target at 9,550,000 tons. This aggressive target builds upon the achievements of the SMM programs and improvements in resource recovery anticipated during FY 2016.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$740.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$1,220.0) This net program change reflects an increase in the agency’s focus on supporting climate mitigation through waste program activities to further reduce greenhouse gas emissions (+\$1.6 million). The EPA will accelerate adoption of successful, results-driven programs by states, local governments, and NGOs through a targeted grant program that will enhance recycling rates for packaging materials and provide technical assistance to recycling programs.

Statutory Authority:

Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), §§ 1002, 1003, 2002, 8001.

Program Area: Toxics Risk Review and Prevention

Endocrine Disruptors

Program Area: Toxics Risk Review and Prevention

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$11,502.9</i>	<i>\$7,553.0</i>	<i>\$4,329.0</i>	<i>(\$3,224.0)</i>
Total Budget Authority / Obligations	\$11,502.9	\$7,553.0	\$4,329.0	(\$3,224.0)
Total Workyears	11.8	8.9	8.9	0.0

Program Project Description:

The Endocrine Disruptor Screening Program (EDSP) was established in 1996 under authorities contained in the Food Quality Protection Act (FQPA) and the Safe Drinking Water Act (SDWA) amendments. Current activities within the EDSP include transitioning to the use of high throughput screening (HTS) and computational toxicology (CompTox) tools to screen thousands of chemicals for endocrine activity, establishing policies and procedures for screening and testing, and evaluating data to ensure chemical safety by protecting public health and the environment from endocrine disrupting chemicals.

Prior to the EPA's groundbreaking work on HTS and CompTox models, screening chemicals for endocrine bioactivity was conducted using a combination of 11 *in vivo* and *in vitro* tests that are time-consuming and animal-intensive. These 11 tests are referred to as the Tier 1 assays. Initially, Tier 1 orders were issued for 67 chemicals (List 1) requiring screening for endocrine bioactivity using the traditional Tier 1 assay techniques. As a result of issuing Tier 1 test orders, 15 of the original 67 chemicals were withdrawn from the market. In FY 2015, agency determinations on the remaining 52 screened chemicals were released. Of those 52, 18 chemicals require more in-depth, Tier 2 testing to determine if there are in fact endocrine disrupting effects. This Tier 2 information will be combined with other hazard and exposure data to determine if there are risks that require mitigation or other regulatory action.

Currently, the Chemical Safety and Pollution Prevention program is working with the EPA's Research and Development program to more rapidly screen chemicals and minimize the use of animal testing by expanding the set of high throughput tools available for use in the EDSP. As part of the transition to high throughput and computational methods, the EPA screened 1,812 chemicals for endocrine activity (a precursor screening process to determining endocrine disrupting potential) using the HTS Estrogen Receptor (ER) model; the pivot to this new approach allows EPA to provide non-animal testing alternatives for three Tier 1 assays.

Since FY 2013, the agency has engaged the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) Scientific Advisory Panel (SAP) in the scientific peer review of high throughput tools -- ToxCast and ExpoCast-- to evaluate their use in chemical screening as alternatives to Tier 1 assays. These external peer review meetings were held in January 2013, July 2014, and December 2014;

the next SAP is planned for December 2016. The results of these reviews assist the agency with incorporating additional HTS-CompTox tools to more efficiently and effectively screen thousands of chemicals for potential endocrine disruption in humans and wildlife.

The use of the new technologies presented to the SAP and incorporated into the program in recent years has the potential to substantially speed up the evaluation of chemicals for their potential to disrupt hormones in humans and wildlife, and to reduce animal use in screening (www.epa.gov/endo/pubs/pivot.htm). These new technologies involve the use of robotics to rapidly and simultaneously perform tests on thousands of chemicals which allows for 100 times faster screening than conventional methods without the use of animals. The robots are capable of executing the toxicity testing of chemicals at astonishing speeds, dramatically increasing performance through higher efficiency, which translates to decreased costs per chemical screened for both the EPA and stakeholders. These new technologies will save 90 percent of the costs to test each chemical, 75 percent in time to develop the data (including the EPA's time and resources to review the data), and reduce the use of animals for testing for these particular effects to nearly zero.

The *EDSP Comprehensive Management Plan* is available on the agency's *EDSP* website at www.epa.gov/endo, and describes how the agency intends to continue its implementation of the EDSP in three major parts: 1) screening thousands of chemicals for potential estrogen activity, 2) developing additional tools to predict androgen and thyroid activity, and 3) validating and providing scientific review of those additional high throughput tools and computational models as alternatives to the current Tier 1 screening assays.

FY 2017 Activities and Performance Plan:

During FY 2017, the EDSP will continue collaborations with the EPA's Research and Development program to increase scientific confidence in high throughput approaches to support a more refined, integrated endocrine activity exposure-based approach to EDSP chemical screening.

The program will look for opportunities to expand the applicability of high throughput tools to develop more targeted testing approaches that more efficiently assess a chemical's potential to interact with the estrogen, androgen, and thyroid systems.

This effort will fulfill several key milestones including:

1. Providing alternatives to 2 additional (total of 7 of 11) EDSP Tier 1 screening assays based on ToxCast HTS in FY 2017;
2. Refining EDSP Tier 2 tests that evaluate adverse effects in mammalian and non-mammalian species;
3. Issuing Tier 2 testing orders for 18 List 1 chemicals, subject to obtaining approval of the Information Collection Request (ICR). (Without an approved ICR, test orders cannot be issued to registrants of pesticides for Tier 2 test data.); and,
4. Exploring broader use of high throughput and computational methods for identifying endocrine activity and exposures leading to risk of endocrine disruption in humans and wildlife.

The EDSP also will continue to collaborate with international partners, through the Organisation for Economic Co-operation and Development (OECD), to maximize the efficiency of the EPA's resources and promote adoption of internationally-harmonized test methods for evaluating the potential endocrine effects of chemicals. The EPA represents the U.S. as either the lead or a participant in OECD projects involving the improvement of assay systems including the development of non-animal screening and testing methods.

In FY 2015, the EPA completed Tier 1 data evaluation of the remaining 52 List 1 chemicals and made determinations on the need for Tier 2 testing. As part of the transition to high throughput and computational methods, in FY 2015, the EPA provided estrogen receptor bioactivity measures for 1,812 chemicals using the Estrogen Receptor (ER) model as an alternative to three Tier 1 assays. However, there are remaining estrogen pathways covered by other Tier 1 assays for which HTS/CompTox models are still under development. The EDSP plans to have alternatives for the estrogen pathways that are covered by the Tier 1 screens by the end of FY 2017 to facilitate decisions about the estrogen bioactivity of those chemicals evaluated using only HTS and CompTox models. For more information, please see <http://www.epa.gov/endo/>.

Performance Targets:

Measure	(E01) Number of chemicals for which Endocrine Disruptor Screening Program (EDSP) decisions have been completed								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target		3	5	20	59	0	0	1,000	Chemicals
Actual		3	1	0	3	54			

Measure	(E07) Annual number of EDSP Tier 1 screening assays for which validated alternatives have been developed, based on high throughput assays and computational models.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target							2	2	Assays and Tools
Actual									

One way this program measures performance is by tracking the number of chemicals with completed EDSP-related decisions relative to screening and risk assessment. A dramatic increase is expected in FY 2017 as the program launches the new HTS and CompTox screening techniques. The number of decisions also will be tracked as part of the agency priority goal: “Assess and reduce risks posed by chemicals and promote the use of safer chemicals in commerce.” The EPA is targeting completing decisions regarding estrogen bioactivity for 1,000 chemicals by the end of FY 2017. In addition, the EDSP will track the number of EDSP Tier 1 screening assays for which validated alternatives have been developed based on high throughput assays and computational models. This measure reflects the advancement in alternatives to traditional screening and testing methods with new, more efficient high throughput and computational tools. For example, in FY 2015, ToxCast assays and an estrogen pathway predictive model were validated as an alternative for 3 of the 11 existing Tier 1 screening assays, significantly increasing the efficiency and number of chemicals that could be screened within the EDSP. The EPA target is to develop HTS-CompTox model alternatives for 2 of the Tier 1 assays in FY2017. The measure tracks progress toward the development of alternative HTS and CompTox models for all 11 Tier 1 screening assays.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$192.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$3,032.0) This program change reflects a decrease as a result of the program's application of computational toxicology using ToxCast and 21st century techniques; however, the reduction limits the agency's ability to fully validate high throughput and computational alternatives for endocrine screening and testing, particularly for thyroid pathway.

Statutory Authority:

Federal Food Drug and Cosmetic Act (FFDCA), § 408(p); Safe Drinking Water Act (SDWA), § 1457.

Toxic Substances: Chemical Risk Review and Reduction

Program Area: Toxics Risk Review and Prevention

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$58,721.1</i>	<i>\$58,554.0</i>	<i>\$67,186.0</i>	<i>\$8,632.0</i>
Total Budget Authority / Obligations	\$58,721.1	\$58,554.0	\$67,186.0	\$8,632.0
Total Workyears	225.1	238.7	248.7	10.0

Program Project Description:

Under the Toxic Substances Control Act (TSCA), the EPA has significant responsibility for ensuring that chemicals in commerce do not present unreasonable risks to human health or the environment. The Chemical Risk Review and Reduction (CRRR) Program works to ensure the safety of:

- Existing chemicals (those already in use when TSCA was implemented in 1978 and those which have gone through the TSCA New Chemicals Program since),²⁸³ by obtaining and assessing chemical data and by taking regulatory and/or non-regulatory action to prevent any unreasonable risk their use may pose; and
- New chemicals (including some genetically modified organisms), by reviewing and taking action on new chemical notices submitted by industry, including Pre-Manufacture Notices (PMNs), to ensure that no unreasonable risk is posed before those chemicals are introduced into U.S. commerce.

The EPA is continuing to strengthen its program to ensure chemical safety, giving particular emphasis to addressing risks from exposure to existing chemicals. This enhanced approach, as reflected in the Fiscal Year 2014-2018 EPA Strategic Plan, has several key components:

- Filling information gaps on existing chemicals by pursuing a range of information gathering actions under TSCA, expanding user-friendly electronic reporting, and increasing transparency by making non-confidential data on TSCA chemicals more readily available to and usable by the public;
- Assessing the human health and environmental risks of existing chemicals, using data from all available sources; and

²⁸³ These include certain prevalent, high-risk chemicals known generally as “legacy chemicals” (e.g., PCBs, mercury), which were previously covered in a separate Chemical Risk Management (CRM) budget justification. The CRM program area has been combined with Chemical Risk Review and Reduction beginning with FY 2015.

- Managing unreasonable chemical risks by utilizing pertinent regulatory authority and by employing non-regulatory approaches, as appropriate.

Recognizing a need to modernize and strengthen TSCA, the EPA, in 2009, issued a statement of legislative reform principles²⁸⁴ designed to increase confidence that chemicals used in commerce and vital to the U.S. economy are safe. As congress continues to consider legislative proposals for TSCA reform, the EPA will continue to work vigorously under current authorities to ensure chemical safety, as described below.

FY 2017 Activities and Performance Plan:

In FY 2017, resources requested will support accelerated implementation of the EPA Enhanced Chemicals Management approach. This approach was launched in FY 2012 when the agency screened thousands of chemicals to establish priorities for assessment and, if necessary, further action. Using this body of chemical data, the EPA then published its TSCA Work Plan, identifying 83 chemicals as priorities for assessment and risk reduction if needed. The EPA updated this list in October 2014, following the methodology used in FY 2012 and applying chemical information obtained through the 2011 Toxics Release Inventory and the 2012 Chemical Data Reporting (CDR). The refreshed TSCA Work Plan Chemicals list contains 90 chemicals, with 23 chemicals added and 16 chemicals consolidated or removed because they are no longer in commerce or are already assessed and being addressed by the EPA or other agencies.

In FY 2014 and FY 2015, the agency published final risk assessments for five TSCA Work Plan Chemicals after addressing public and peer review comments—the first final TSCA risk assessments published by the EPA in 28 years.²⁸⁵ In FY 2015, the EPA initiated rulemaking actions under TSCA Sections 5 and 6 to reduce risks identified for three of those chemicals.²⁸⁶ The EPA also released draft assessments for six TSCA Work Plan Chemicals and 12 related or similar chemicals while continuing to make progress on final assessments, bringing the cumulative total to five Work Plan Chemicals with final risk assessments and seven Work Plan Chemicals addressed in a data needs assessment as of the close of the fiscal year. In addition, the EPA continued to make significant improvements to its ChemView database, which provides online public access to health and safety data on chemicals regulated under TSCA, and significantly expanded its content. The FY 2017 President’s Budget request will enable the EPA to accelerate initiation and completion of assessments for TSCA Work Plan chemicals as well as support additional or accelerated risk reduction work where completed assessments have identified risks. The FY 2017 request also will support EPA’s annual review of more than 1,000 TSCA Section 5 New Chemicals Premanufacture Notice (PMN) submissions and continued expansion and enhancements to ChemView and other IT tools supporting the chemical safety program. The FY 2017 request also will expand the establishment of a chemical safety program infrastructure in the EPA’s Regional Offices to improve implementation of risk management action.

²⁸⁴ Essential Principles for Reform of Chemicals Management Legislation for more information please refer to <http://www.epa.gov/assessing-and-managing-chemicals-under-tsca/essential-principles-reform-chemicals-management-0>.

²⁸⁵ See <http://www.epa.gov/oppt/existingchemicals/pubs/riskassess.html#completed>.

²⁸⁶ See RIN numbers 2070-AK03, 2070-AK05 and 2070-AK07 in Agency Rule List – Spring 2015 at <http://www.reginfo.gov/public/Forward?SearchTarget=Agenda&textfield=>.

The EPA uses information obtained from its chemical risk assessments in determining whether action is needed to reduce chemical risks and, if so, what action to take. For example, evidence obtained from the risk assessment of trichloroethylene (TCE) helped guide the EPA's recent decision to enter into an agreement with a specific company to phase out its use of the chemical as a fixative for arts and crafts and to propose a Significant New Use Rule (SNUR) for this use and certain new consumer uses of TCE. Assessments of the paint remover uses of n-methylpyrrolidone (NMP) and methylene chloride have prompted the agency to initiate rulemakings on a range of risk reduction actions under TSCA.

In FY 2017, the agency's programs and activities will continue to align with the E-Enterprise business strategy, an integral part of the agency's focus on launching a new era of state, local, tribal, and international partnerships. E-Enterprise for the Environment is a transformative 21st century strategy – jointly governed by states and the EPA – for modernizing government agencies' delivery of environmental protection. Under this program, the agency will streamline its business processes, tools and systems to improve data submission and reduce reporting burden on states and regulated facilities, and improve the effectiveness and efficiency of regulatory programs for the EPA, states and tribes.

Existing Chemicals Program:

In FY 2017, the EPA will continue to ensure the safety of chemicals already in commerce by:

1) Obtaining, Managing, and Enabling Public Access to Chemical Information:

In FY 2017, the resources requested will support continued development of the information base needed to facilitate chemical assessment and risk management actions while increasing public access to chemical safety information. The following activities planned for FY 2017 will enhance the quantity, accessibility and efficient management of essential chemical information in support of risk assessment, risk management and transparency:

- Obtaining and processing data required by data needs assessments and any data remaining from three TSCA test rules issued between 2006 and 2013 covering High Production Volume (HPV) chemicals not sponsored under the HPV Challenge Program²⁸⁷;
- Maintaining and enhancing the functionality of ChemView and expanding the information it makes available to the public to include newly completed new and existing chemicals assessments, as well as other new data reported to the EPA under TSCA (e.g., Section 5 Premanufacture Notices (PMNs), Section 12(b) data, and Section 8 (d), 8(e), and 8(c) submissions);
- Increasing transparency by continuing to review all new submissions to the EPA under TSCA where chemical identity in health and safety studies is claimed as CBI and, where appropriate, challenging such CBI claims and making information in those health and safety studies publicly available;

²⁸⁷ See <http://www.epa.gov/hpv/pubs/general/regactions.htm>.

- Continuing work commenced in FY 2015 to digitize both new and archived documents received under various TSCA authorities (e.g., Sections 4, 5 and 8²⁸⁸) and, where appropriate, making those data available to the public;
- Continuing enhancement of the TSCA Chemical Information System (CIS) to reduce manual data steps, increase accessibility of data relevant to chemical assessments and expedite scientific review of chemicals; and
- Continuing integration of TSCA information management, e-Reporting and public access systems with the agency's E-Enterprise business strategy, leveraging the E-Enterprise portal designed in FY 2014 to provide better customer services for external users.

The EPA is planning to allocate \$10,787.0 and 46.7 FTE to this work area in FY 2017.

2) Screening and Assessing Chemical Risks:

In FY 2017, the EPA will accelerate its work to assess chemicals on the refreshed TSCA Work Plan Chemicals list and other chemicals. Ongoing assessments of chemicals initiated in prior years will continue into FY 2017, and additional assessments will be initiated FY 2017.

Specific activities planned for FY 2017 include:

- Initiating assessments of up to 18 additional Work Plan chemicals;
- Completing assessments for 21 additional TSCA Work Plan and related/similar chemicals, bringing the cumulative total of chemicals with completed assessments to 45²⁸⁹; and
- Developing new tools for hazard and exposure identification and characterization, while improving existing tools to better assess risks from both new and existing chemicals.

The EPA is planning to allocate \$20,168.0 and 66.5 FTE to this work area in FY 2017.

3) Reducing Chemical Risks:

In FY 2017, the resources requested will support the agency's portfolio of risk management actions, including:

²⁸⁸ TSCA Section 4 authorizes EPA to require testing of chemicals by manufacturers (including importers) and processors where risks or exposures of concern are found. TSCA Section 5 provides for pre-manufacture notification and review by EPA for new chemical substances before manufacture and entry into U.S. commerce, and for EPA to issue Significant New Use Rules (SNURs). TSCA Section 8 authorizes EPA to gather information on chemical manufacturing, processing and use, gather chemical health and safety information from manufacturers (including importers), processors or distributors in unpublished health and safety studies, and requires that EPA be immediately notified when substances or mixtures present a substantial risk of injury to health or the environment.

²⁸⁹ EPA sets out to complete risk assessments for all chemicals on the TSCA Work Plan; however, in some cases available data are insufficient to support a risk assessment and Data Needs Assessments are issued to commence the process for obtaining the missing data. Assessments for seven of the chemicals completed in FY 2015 were issued as Data Needs Assessments.

- Advancing, as appropriate, risk reduction actions in response to completed risk assessments of TSCA Work Plan chemicals, including TSCA Section 6 production and use restriction rules, TSCA Section 5 Significant New Use Rules (SNURs) and other regulatory and non-regulatory approaches to risk reduction; conducting stakeholder outreach; and increasing risk reduction actions at the regional level;
- Implementing regulations for the TSCA Title VI Formaldehyde Standards for Composite Wood Products Act (Public Law 111-199), which are anticipated to be finalized in FY 2016. Title VI establishes national emission standards for formaldehyde in new composite wood products;²⁹⁰
- Identifying safer alternatives for selected chemicals and listing chemicals on the Safer Chemical Ingredient List (SCIL) that meet EPA's Safer Chemical criteria;
- Developing a final rule revising certain use authorizations for Polychlorinated Biphenyls (PCBs) and continuing efforts to provide information to school administrators and building managers for effectively managing building materials such as PCBs in caulk²⁹¹ and replacing PCB-containing fluorescent light ballasts;²⁹²
- Continuing to encourage reductions in the use of mercury in various products such as non-ferrous thermometers; providing information regarding mercury in products, such as information on proper storage of mercury waste;²⁹³ continuing to implement the Mercury Export Ban Act (MEBA);²⁹⁴ and providing responses to any requests for exemption from applicable export prohibitions;
- Continuing to work closely with other federal agencies to coordinate efforts on addressing identified chemical risks, ensuring that children's health and impacts on minorities, low income and indigenous populations are considered consistent with EPA's responsibilities under Executive Order 13045.

For more information on the EPA's efforts to assess and act on existing chemicals, please see <http://www.epa.gov/oppt/existingchemicals/>.

The EPA is planning to allocate \$17,762.0 and 49.3 FTE to this work area in FY 2017.

New Chemicals Program:

In 2015, the EPA evaluated the TSCA New Chemicals Program processes and tools and made recommendations to improve efficiency and effectiveness. In FY 2017, the EPA will continue to implement program enhancements, including those regarding information technology. In FY 2017, the EPA will continue reviewing new chemical submissions to determine whether the chemicals

²⁹⁰ See <http://www2.epa.gov/formaldehyde/formaldehyde-emission-standards-composite-wood-products>

²⁹¹ See <http://www.epa.gov/pcbsincaulk/>.

²⁹² See <http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/ballasts.htm>.

²⁹³ See <http://www.epa.gov/mercury/>.

²⁹⁴ MEBA prohibits the export of elemental mercury as of January 1, 2013, among other requirements for EPA, DOE, and other federal agencies.

may pose unreasonable risk to human health or the environment if they were to enter U.S. commerce, and taking steps, where needed, to prevent such risks. Each year, the EPA assesses and manages, as necessary, the potential risks from approximately 1,000 new chemicals, including nanoscale materials and products of biotechnology, prior to their entry into the marketplace. As part of this process, work will proceed on updating test methods and guidelines and updating new chemicals categories, which help expedite reviews.

For more information, please see www.epa.gov/opptintr/newchems.

The EPA is planning to allocate \$18,469.0 and 86.2 FTE to this work area in FY 2017.

Performance Targets:

Measure	(247) Percent of new chemicals or organisms introduced into commerce that do not pose unreasonable risks to workers, consumers, or the environment.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	100	100	100	100	100	100	100	100	Percent
Actual	91	100	100	100	95	96			

Measure	(C19) Percentage of CBI claims for chemical identity in health and safety studies reviewed and challenged, as appropriate, as they are submitted.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target		100	100	100	100	100	100	100	Percent
Actual		100	100	100	100	100			

Measure	(D6A) Reduction in concentration of PFOA in serum in the general population.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			1	No Target Established	25	No Target Established	41	No Target Established	Percent Reduction
Actual			32	Biennial	Data Avail 10/2016	Biennial			

Measure	(RA1) Annual number of chemicals for which risk assessments are finalized through EPA's TSCA Existing Chemicals Program.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target					3	7	12	21	Chemicals
Actual					4	1			

The CRRR program supports the achievement of the FY 2016/2017 Agency Priority Goal (APG): “Assess and reduce risks posed by chemicals and promote the use of safer chemicals in commerce” through the completion of assessments for TSCA Work Plan and related Chemicals and TSCA Section 5 (New Chemicals) Notices. The EPA has been reviewing a thousand or more PMN submissions for new chemicals annually for decades, and the measure’s targets anticipate continuation of that level of effort. The APG’s targets for completing assessments of existing chemicals, on the other hand, commit the agency to annual increases, as does the related GPR Annual Performance Measure. The EPA released the first four chemical risk assessments under TSCA in 28 years in FY 2014, with a fifth risk assessment completed in FY 2015, and projects to

complete 12 in FY 2016 and 21 in FY 2017. That increased pace is made possible through the increased resources included in the FY 2017 President's Budget request and also through the experience gained in completing the initial assessments and the development of a multi-year plan for initiating assessments of all remaining original chemicals on the updated TSCA Work Plan Chemicals list by the close of FY 2018.

The GPRA annual performance measure tracking the percent of new chemicals or organisms introduced into commerce that do not pose unreasonable risk to human health or the environment enables the EPA to monitor the effectiveness of its New Chemicals Program as a chemical safety gatekeeper. This measure tracks the results of the EPA analysis of incoming TSCA 8(e) notices of substantial risk to determine if they are related to previously-reviewed new chemicals, and then check the accuracy of New Chemicals Program review and analysis. While not involving review of all or a statistical subset of PMN-reviewed chemicals, the agency has achieved the ambitious 100 percent target in three of the past six years. In the three years in which the result was not 100 percent (91 percent in FY 2010, 95 percent in FY 2014 and 96 percent in FY 2015) the small number of responsible chemicals were not found to present exposure concerns, so follow-up regulatory action was not necessary. The improved understanding resulting from those cases have been incorporated into the reference files used in review of newly submitted PMNs, reducing the likelihood of similar occurrences in the future.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$564.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$5,933.0 / +10.0 FTE) This program change reflects a significant investment of Headquarters resources and Regional Offices FTE to increase support for additional or accelerated risk reduction work on TSCA Work Plan Chemicals where completed assessments have identified risks; in addition, the increased Regional Offices FTE will support efforts to address formaldehyde in pressed wood products and address public concerns associated with the presence of PCBs in building materials in schools and elsewhere.
- (+\$2,505.0) This program change increase reflects a significant investment to accelerate initiation and completion of assessments for TSCA Work Plan Chemicals, allowing the EPA to make greater progress towards the ambitious FY 2018 Strategic Target to assess all of the originally identified TSCA Work Plan chemicals. With these additional resources, along with existing base resources, the EPA will initiate assessments of up to 18 additional Work Plan Chemicals and complete assessments for an additional 21 Work Plan chemicals.
- (-\$370.0) This program change reflects a redirection of resources within the CRRR Program to reflect cyclical changes from work on Chemical Data Rule (CDR) reporting processing to assessment and risk management activities supported, in part, by CDR data.

Statutory Authority:

Toxic Substances Control Act (TSCA), §§ 2-30. Pollution Prevention Act of 1990 (PPA), §§ 6602-6610.

Pollution Prevention Program

Program Area: Toxics Risk Review and Prevention

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Promote Pollution Prevention

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$12,960.5</i>	<i>\$13,140.0</i>	<i>\$13,930.0</i>	<i>\$790.0</i>
Total Budget Authority / Obligations	\$12,960.5	\$13,140.0	\$13,930.0	\$790.0
Total Workyears	55.4	58.1	58.1	0.0

Program Project Description:

Implementing the Pollution Prevention Act (PPA) of 1990, the Pollution Prevention (P2) program is one of the EPA’s primary tools for advancing environmental stewardship and sustainability by federal, state and Tribal governments; businesses; communities and individuals. The P2 program seeks to alleviate environmental problems by achieving significant reductions in the generation of hazardous releases to air, water, and land; reductions in the use of hazardous materials; reductions in the generation of greenhouse gases; and reductions in the use of water. At the same time, the P2 Program helps businesses and others reduce costs as a result of implementing these preventative approaches. The P2 program’s efforts advance the agency’s priorities to pursue sustainability, take action on climate change, make a visible difference in communities, and ensure chemical safety. The P2 program is augmented by a counterpart P2 Categorical Grants Program in the State and Tribal Assistance Grants (STAG) account.

The P2 Program accomplishes its mission by:

- Fostering the development of P2 solutions to environmental problems that eliminate or reduce pollution, waste, and risks at the source, such as through: cleaner production processes and technologies; safer, “greener” materials and products; and improved practices; and,
- Promoting the adoption, use and market penetration of those solutions through such activities as providing technical assistance and demonstrating the benefits of P2 solutions.

For more information about the EPA’s P2 program, please see <http://www.epa.gov/p2/>.

FY 2017 Activities and Performance Plan:

Foster the Development of P2 Solutions

The P2 program fosters the development of P2 solutions by developing and applying criteria and assessment tools to drive P2 innovation and by developing and applying practices that prevent pollution. Activities planned for FY 2017 include:

- Work conducted by the Safer Choice program²⁹⁵, which provides information that leaders in industry can use to move to safer chemical alternatives. The program rewards industry for using safer chemicals by highlighting their participation and differentiating products that meet strict Safer Choice standards. In FY 2017, the program will continue compiling its tools and methodologies for identifying safer alternatives for use by stakeholders, including product and chemical manufacturers. The program will continue coordinated outreach with partners on the new label launched in FY 2015 to better communicate the health and environmental benefits of labeled products to consumers; federal, state and local government procurement officials; and institutional and industrial purchasers. The Safer Choice program will expand into additional product categories and seek to increase consumer and commercial recognition of Safer Choice products.

Work under the Environmentally Preferable Purchasing (EPP) Program²⁹⁶ to meet the direction provided to the EPA in Executive Order (E.O.) 13693. The program issued interim recommendations of non-federal specifications, standards, and ecolabels in FY 2015 and will continue to implement its leadership role on EPP as designated by the E.O. In FY 2017, the EPP program will continue work toward the implementation of guidelines intended to provide a transparent, fair and consistent approach to using non-federal environmental performance product standards and eco-labels in federal purchasing. The currently ongoing pilot of these draft guidelines will help the EPA to provide recommendations for non-federal specifications, standards, and ecolabels for flooring, paints/coatings/removers and furniture and determine how to improve the process of assessing standards and ecolabels in other priority purchase categories in FY 2017 and beyond; the pilot will be completed in late FY 2016. In FY 2017, the program will continue its focus on electronic products by enhancing existing environmental benefits calculators and working with stakeholders to develop new ones for key recommended standards in other electronic product categories; the current suite of environmental benefits calculators document actual environmental benefits from the purchase of computers and imaging equipment that meet environmental voluntary consensus standards. The EPP Program also will continue to participate in processes to develop or revise voluntary consensus standards for a variety of product and service categories.

- Work conducted by the Green Chemistry program²⁹⁷, which fosters the sustainable design of chemical products and processes. The Presidential Green Chemistry Challenge Awards (PGCCA) serve a critical role in raising the profile, importance and credibility of innovative the green chemistry technologies. During the 20 years of the program (through 2015), the EPA has received more than 1,500 nominations and presented awards to 104 technologies, demonstrating the interest among stakeholders to be recognized at the national level for developing green chemistry solutions. Over the lifetime of the program, winning technologies have been responsible for reducing the use or generation of more than 826 million pounds of hazardous chemicals, saving 21 billion gallons of water, and eliminating 7.8 billion pounds of carbon dioxide equivalent releases to air. In FY 2017, the EPA also will develop training materials to help state, local, and industry stakeholders acquire information and understanding of the business and technical benefits from these processing, manufacturing, and materials innovations.

²⁹⁵ <http://www2.epa.gov/saferchoice>.

²⁹⁶ <http://www.epa.gov/greenerproducts/buying-green-federal-purchasers>.

²⁹⁷ <http://www.epa.gov/greenchemistry/index.html>.

- Work conducted by the Green Engineering program, which fosters identification and implementation of more environmentally beneficial processes by developing tools and assisting the EPA Regions, as requested, in application of those tools to specific processes. In FY 2017, the program will continue to work with the EPA Regional Offices to identify and implement opportunities to extend the life of solvents used in pharmaceutical manufacturing. In FY 2017, this program will continue to develop and disseminate green engineering materials management tools and methodologies, including the P2 Program's environmental benefit calculators. These tools can be used by various stakeholders and the P2 program to develop a compelling P2 business case for remanufacturing hazardous secondary material, especially solvents, using the Definition of Solid Waste remanufacturing exclusion under the Resource Conservation and Recovery Act.
- Work to assist businesses, particularly small- and medium-sized firms, identify opportunities to deploy P2 solutions, and to provide upstream support to the state P2 technical assistance providers that are the agency's partners in that effort. In FY 2017, states, tribes and other grantees, with support from the program, will choose to focus on one or more of the following P2 national emphasis areas: climate change mitigation; food manufacturing or processing; and state or community approaches to hazardous materials source reduction. To further advance these P2 technical assistance objectives, in FY 2017, the EPA also will customize, develop and deliver training to identify and deploy green chemistry and engineering solutions through a range of incentive, regulatory, and other approaches.

The EPA is planning to allocate \$4,566.0 and 18.8 FTE to this strategy in FY 2017.

Promote the Adoption, Use and Market Penetration of P2 Solutions

The P2 program promotes increased adoption, use and market penetration of the P2 solutions described above, by providing and promoting technical assistance, increasing market penetration of established P2 solutions by demonstrating benefits of P2 solutions, and creating and communicating incentives for their adoption. Activities planned for FY 2017 include:

- Work conducted through the Economy, Energy and Environment (E3) Initiative²⁹⁸ and the Green Suppliers Network (GSN), a collaboration including five other federal agencies to provide technical assistance to manufacturers. The initiative identifies environmental improvements and cost savings and supports manufacturers who wish to implement sustainable changes to their business practices while reducing business costs, increasing job growth, and maintaining competitiveness. In FY 2017, the EPA will continue to work with its federal partners and state pollution prevention programs to facilitate facility-specific assessments for small- and medium-sized suppliers with a goal of increasing the implementation rate of E3 solutions to 30%. E3 recommendations help suppliers reduce business costs, improve productivity and efficiency, and measure greenhouse gas (GHG) emissions.

²⁹⁸ <http://www2.epa.gov/e3>.

- The E3 Initiative and GSN are expected to have grown by FY 2017 to include more than 35 state partners, by leveraging existing resources across the E3 federal agency partners. Currently the program is active in 31 states. In FY 2017, E3 and GSN will work with the Department of Energy to strengthen technical assistance offerings in the energy efficiency and environmental areas and also will continue to work with the USDA to expand the E3 framework into agriculturally-based manufacturing.
- The EPA will continue to encourage increasing the percentage of E3 assessments that are funded by local community resources and private financial support and investment, including non-profits, foundations, impact investors, social bonds and in-kind service funding. Additionally, the EPA, working with the Investing in Manufacturing Communities Partnership (IMCP), has developed a guide for communities to develop their own E3 funding support and to leverage funding across federal agencies.
- Continued work initiated in FY 2014 by the Green Chemistry program to analyze green chemistry innovations (particularly those nominated for awards) and work with the EPA regional offices, federal partners, and external stakeholders to facilitate market adoption and penetration of new commercially successful chemistries and technologies. In 2015, for example, work was initiated to analyze Presidential Green Chemistry Award-winning and nominated green chemistry innovations offering solutions to climate change. With several hundred awardees and nominees from recent years, there are substantial opportunities to pursue the goal of market-oriented environmental and economic progress through increased adoption of these P2 innovations.
- Allowing companies making products that are safer for people and the environment to communicate their safer chemical leadership to customers through the use of the label under the Safer Choice Program. More than 500 manufacturers have met the rigorous standard to qualify more than 2,000 cleaning and other products to display the Safer Choice label—products that are safer for families, pets and the environment. To enhance transparency, the EPA has listed on the program’s website the non-confidential chemicals that meet applicable program criteria and that are allowed in the program’s labeled products. As of the end of FY 2015, this Safer Chemical Ingredients List contained more than 725 safer chemicals, and the EPA will continue to update this list in FY 2016 and FY 2017 as the program evaluates additional chemical ingredients and chemical categories and approves products for the use of the Safer Choice label.
- Provide leadership by the Green Engineering program to promote and increase use of sustainability engineering education materials, including life-cycle and risk-based assessment tools, in universities. For example, two textbooks published with the support of the EPA, *Sustainable Engineering: Concepts, Design and Case Studies* and *Green Engineering: Environmentally Conscious Design of Chemical Processes*, have been used in more than 90 universities and colleges in the U.S and internationally.
- In FY 2017, the EPA, as a collaborative effort with the EPA Regional P2 Coordinators and State P2 Technical Assistance Providers, will continue to identify geographic-based training needs (also influenced by state P2 mandates and assets) for enhanced technology transfer

across the assistance chain. To encourage hazardous materials reduction opportunities in P2 assessments, this training is intended to increase the use of Green Chemistry, Green Engineering, and Safer Choice/Design for the Environment, as well as other P2 and chemical assessment approaches, tools, and innovative technologies.

- Technical assistance provided to industry (primarily small- and medium-sized businesses), government and the public directly by the EPA's regional offices, through multi-region collaborative efforts and through Source Reduction Assistance (SRA) grants issued annually on a competitive basis. In FY 2017, states, tribes and other grantees, with support from the program, will choose to focus on one or more of the following P2 national emphasis areas: climate change mitigation; food manufacturing or processing; and state or community approaches to hazardous materials source reduction.

The EPA is planning to allocate \$9,364.0 and 39.3 FTE to this strategy in FY 2017.

Performance Targets:

Measure	(262) Gallons of water reduced through pollution prevention.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	781	783	785	771	932	1,156	1,390	1,390	Gallons (Millions)
Actual	1,472	1,397	1,175	936	1,618	Data Avail 10/2016			

Measure	(263) Business, institutional and government costs reduced through pollution prevention.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	253.9	268.5	196.9	195.6	133.3	362.6	445.6	445.6	Dollars Saved (Millions)
Actual	435.5	533.7	737.4	594.9	587.5	Data Avail 10/2016			

Measure	(264) Pounds of hazardous materials reduced through pollution prevention.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	188.1	199.6	88.7	71.6	23.4	204.2	214.2	214.2	Pounds (Millions)
Actual	200.3	154.8	214.9	231.5	190.3	Data Avail 10/2016			

Measure	(297) Metric Tons of Carbon Dioxide Equivalent (MTCO2Eq) reduced or offset through pollution prevention.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	2.11	2.19	1.74	1.46	1.0	2.0	2.2	2.2	MTCO2Eq (Millions)
Actual	2.8	2.8	3.9	3.4	3.0	Data Avail 10/2016			

Measure	(P2X) Annual Number of Additional Products Recognized by the Safer Choice program								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target						375	100	125	Product
Actual						101			

Measure	(P2Y) Annual Number of Additional Chemicals Added to the Safer Chemical Ingredients List								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target						100	100	100	Chemicals
Actual						77			

The P2 program aggregates results from all of the activities described above within a transparent and consistent measurement framework focused on five common measures. There is a 1-year data lag for the first four outcome measures listed below.

- Reduced use of hazardous materials;
- Reduced use of water;
- Reduced emission of greenhouse gases;
- Reduced costs to businesses, governments and institutions; and
- Additional Safer Chemicals and Safer Chemical Products

In FY 2016, the EPA will conduct a survey to assess consumer awareness and familiarity with the Safer Choice label that was rolled-out in FY 2015. In the harder-to-measure institutional marketplace, EPA will monitor the change in number of labeled products year after year, work to have the new label adopted by state green purchasing programs and work with trade associations to monitor their members' use of Safer Choice. The new Safer Choice label replaced the previously used "Design for the Environment" label with the intention to increase recognition of the program and to increase demand for safer products. Results of the survey may lead to changes in program implementation strategies to ensure that the Safer Choice program is achieving its goals to increase consumer awareness of safer products and increase manufacturer interest in meeting safer products criteria.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$288.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$502.0) This program change reflects an increase to support efforts to promote the adoption of the Safer Choice label by product manufacturers and to increase the demand for and use of Safer Choice labeled products by retailers, industrial and commercial purchasers and the public. Additional resources also will allow the Safer Choice program to expand its initiative into schools and expand into new product categories and classes and to conduct additional outreach to stakeholders, including manufacturers, retailers, and the public. The EPA will develop a toolkit for school purchasers to help them select safer products for facility maintenance and begin outreach to schools to protect children, teachers and workers. The EPA also will explore working with health care facilities and product sectors such as children's crafts.

Statutory Authority:

Pollution Prevention Act of 1990 (PPA), §§ 6602-6610; Toxic Substances Control Act (TSCA), § 10.

Toxic Substances: Lead Risk Reduction Program

Program Area: Toxics Risk Review and Prevention

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$14,140.8	\$13,275.0	\$13,598.0	\$323.0
Total Budget Authority / Obligations	\$14,140.8	\$13,275.0	\$13,598.0	\$323.0
Total Workyears	75.5	72.8	72.8	0.0

Program Project Description:

Recent biomonitoring data show that significant progress has been made in the continuing effort to eliminate childhood lead poisoning as a public health concern. At the same time, studies have indicated that children's health may be adversely affected even at extremely low blood levels.²⁹⁹ In response to this information and the fact that approximately 37 million homes in the U.S. still have lead-based paint,³⁰⁰ the EPA is working to reduce the number of children with blood lead levels of five micrograms per deciliter or higher. The Lead Risk Reduction program also works to reduce the disparities in blood lead levels between low-income children and non-low-income children.³⁰¹

The EPA's Lead Risk Reduction program contributes to the goal of eliminating childhood lead poisoning by:

- Establishing a national pool of certified firms and individuals who are trained to carry out renovation and repair and painting projects while adhering to the lead-safe work practice standards, and to minimize lead dust hazards created in the course of such projects;
- Establishing standards governing lead hazard identification and abatement practices and maintaining a national pool of professionals trained and certified to implement those standards; and

²⁹⁹ U.S.EPA. Air Quality Criteria for Lead (September 29, 2006)

<http://cfpub.epa.gov/ncea/CFM/recordisplay.cfm?deid=158823>.

Rogan WJ, Ware JH. Exposure to lead in children – how low is low enough? N Engl J Med.2003;348(16):1515-1516

<http://www.precaution.org/lib/rogan.nejm.20030417.pdf>.

Lanphear BP, Hornung R, Khoury J, et al. Low-level environmental lead exposure and children's intellectual function: an international pooled analysis. Environ Health Perspect. 2005; 113(7):894-899

<http://www.pubmedcentral.nih.gov/articlerender.fcgi?doi=10.1289/ehp.7688>

³⁰⁰ Jacobs, D.E.; Clickner, R.P.; Zhou, J.Y.; Viet, S.M.; Marker, D.A.; Rogers, J.W.; Zeldin, D.C.; Broene, P.; and Friedman, W. (2002). The prevalence of lead-based paint hazard in U.S. housing. Environmental Health Perspectives, 110(10): A599-A606

³⁰¹ Centers for Disease Control and Prevention. Fourth Report on Human Exposure to Environmental Chemicals, Updated Tables, (September, 2012). Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. <http://www.cdc.gov/exposurereport/>.

- Providing information and outreach to housing occupants and the public so they can make informed decisions and take actions about lead hazards in their homes.

The Lead Risk Reduction program is augmented by a counterpart Lead Categorical Grant program in the State and Tribal Assistance Grants (STAG) account.

For more information, please see <http://www.epa.gov/lead>.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to implement the Renovation, Repair and Painting (RRP) Rule to address lead hazards created by renovation, repair and painting activities in homes and child-occupied facilities.³⁰² Through December 1, 2015, fourteen states and one tribe have been authorized to administer and enforce this program. In the remaining non-authorized states, tribes and territories, the EPA will continue to accredit training providers, track training class notifications and certify renovation firms. The EPA also will assist in the development and review of state and Tribal applications for authorization to administer training and certification programs, provide information to renovators and homeowners, provide oversight and guidance to all authorized programs and disseminate model training courses for lead-safe work practices. In addition, as of December 1, 2015, there were 408 accredited RRP training providers and more than 100,000 certified renovation firms.

As part of a 2009 settlement, the EPA agreed to issue a proposed rule to regulate: (1) the exterior renovation of public and commercial buildings and (2) the interior renovation of public and commercial buildings. Subsequently, on June 19, 2015, the EPA entered into an amended settlement agreement with several litigants that challenged the 2008 RRP rule. The EPA and the litigants agreed that the EPA would propose a regulation addressing lead from renovations of public and commercial buildings by March 31, 2017, unless the EPA determines that such renovations do not create a lead-based paint hazard, and to take final action on or before the date that is 18 months after a proposal is published in the Federal Register (approximately September, 2019). In FY 2016, the agency plans to continue work to evaluate if hazards are created from renovations of public and commercial buildings and, if so, propose the rule by March 31, 2017.

Revisit the Lead Dust Standard and Definition of Lead-Based Paint

On August 10, 2009, the EPA received a petition requesting the agency to lower the levels in the current lead dust hazard standards and to modify the definition of lead-based paint in its regulations promulgated under Sections 401 and 403 of the Toxic Substances Control Act (TSCA). The EPA responded to the petition on October 22, 2009, agreeing to revisit the current lead dust hazards standard and to work with the U.S. Department of Housing and Urban Development (HUD) to reconsider the definition of lead-based paint in its regulations.³⁰³

In May 2014, HUD received approval of an Information Collection Request (ICR) of HUD Lead Hazard Control Grantees to obtain information about their work practices. This ICR will inform

³⁰² <http://www.epa.gov/lead/pubs/faq2.htm>.

³⁰³ <http://www.epa.gov/opptintr/chemtest/pubs/petitions.html>.

the EPA’s decision making regarding any potential revisions to the lead dust hazard standards. Data from this Information Collection became available in FY 2016. In FY 2017, EPA plans to continue using these data as well as other information and analyses to consider potential changes to the Lead Dust Standard.

Implement the Lead-based Paint Activities (Abatement, Risk Assessment and Inspection) Rule

In FY 2017, the EPA will continue to implement the Lead-based Paint Activities (Abatement, Risk Assessment and Inspection) Rule by administering the federal program to review and certify firms and individuals and to accredit training providers. Additionally, the agency will continue to review and process requests by states, territories and tribes for authorization to administer the lead abatement program in lieu of the federal program. Through December 1, 2015, thirty-nine states and territories, four tribes, the District of Columbia, and Puerto Rico have been authorized to run the lead-based paint abatement program.

Provide Education and Outreach

In FY 2017, the agency will continue to provide education and outreach to the public on the hazards of lead-contaminated paint, emphasizing compliance assistance and outreach to support implementation of the RRP rule and to increase public awareness about preventing childhood lead poisoning. Furthermore, the EPA will focus on outreach and training efforts aimed at increasing the number of lead-safe certified firms in targeted communities. These efforts will be followed by inspection and enforcement activity in targeted communities. Such efforts were pilot tested in FY 2015 in New Haven, CT and resulted in 40 additional firms in the community seeking certification.

Efforts will continue to help educate low income communities on lead hazards and the importance of lead poisoning prevention. Finally, the EPA will continue to provide support to the National Lead Information Center (NLIC) to disseminate information to the public through a telephone hotline and in electronic form.

Information on state and Tribal grants for implementation of lead programs is presented in the Categorical Grant: Lead budget justification narrative.

Performance Targets:

Measure	(008) Percent of children (aged 1-5 years) with blood lead levels (>5 ug/dl).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	3.5	No Target Established	1.5	No Target Established	1.0	No Target Established	1.0	No Target Established	Percent
Actual	2.6	Biennial	2.1	Biennial	Data Avail 10/2016	Biennial			

Measure	(009) Cumulative number of active certified Renovation Repair and Painting firms								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	100,000	100,000	140,000	140,000	138,000	145,000	96,000	97,000	Firms
Actual	59,143	114,834	126,323	133,587	139,702	108,623			

Measure	(10A) Annual percentage of lead-based paint certification and refund applications that require less than 20 days of EPA effort to process.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	92	92	95	95	95	95	95	95	Percent
Actual	96	95	97	99	100	99			

Measure	(10D) Percent difference in the geometric mean blood level in low-income children 1-5 years old as compared to the geometric mean for non-low income children 1-5 years old.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	28	No Target Established	13	No Target Established	20	No Target Established	25	No Target Established	Percent
Actual	28.4	Biennial	34.8	Biennial	Data Avail 10/2016	Biennial			

In FY 2017, the EPA will work to ensure that the percentage of children with blood lead levels above five micrograms per deciliter does not rise above one percent, the level set as the FY 2014 target. The agency intends to sustain this level of performance through FY 2018 in accordance with the *FY 2014-2018 EPA Strategic Plan*. Data are obtained from the Centers for Disease Control and Prevention’s (CDC’s) National Health and Nutrition Examination Survey (NHANES), the primary U.S. database for national blood lead statistics.

Additionally, the Lead program tracks the disparities in blood lead levels between low-income children and non-low-income children. The EPA's long-term goal, as reflected in the *FY 2014-2018 EPA Strategic Plan*, is to close the gap between the geometric mean blood lead levels among low-income children versus non-low-income children, from a baseline percentage difference of 28.4 percent (as calculated from 2007-2010 NHANES sampling data) to a difference of 10 percent by FY 2018.

In FY 2010, the Lead program introduced a supporting output measure that tracks the number of firms certified in Renovation, Repair and Painting activities. As of December 1, 2015, more than 100,000 are certified to perform RRP work in homes and child-occupied facilities. The RRP program has reached the end of the first five-year cycle of initial certifications, and firms must reapply to the EPA to maintain their certified status. Based on the current average recertification rate of approximately 28 percent, the agency projects the number of certified firms at the close of FY 2016 to be approximately 96,000, and by the close of FY 2017 approximately 97,000. Given the current level of demand, this appears to be an appropriate supply of certified firms.

The EPA has made use of evidence in the form of blood lead data, housing data and recertification data to assess the effectiveness of its approaches to Lead RRP outreach and to identify mid-course corrections and improvements, including targeted outreach in areas with elevated blood leads and older housing as well as targeted mailings to firms that have not been recertified.

The Lead program’s annual efficiency measure tracks improvements in processing time for certification applications for lead-based paint professionals and for refund applications. Since FY 2004, the percent of certification and refund applications processed in under 20 days has increased

from 87 to 100 percent as of FY 2015. This provides solid evidence of the program's effectiveness in making the certification process more efficient and in maintaining that high level of performance over time.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$479.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$156.0) This program change reduces resources that were needed in FY 2016 to conduct a Lead-based Paint Hazard Survey of Public and Commercial Buildings and provide other rulemaking support activities necessary to meet a court-ordered settlement date to complete a rulemaking for Renovation Repair and Painting Activities in Public and Commercial Buildings. In FY 2017, the survey and other pre-rulemaking activities will be coming to an end and the associated resources are no longer necessary.

Statutory Authority:

Toxic Substances Control Act (TSCA), §§ 401-412.

Program Area: Underground Storage Tanks (LUST / UST)

LUST / UST

Program Area: Underground Storage Tanks (LUST / UST)
 Goal: Cleaning Up Communities and Advancing Sustainable Development
 Objective(s): Restore Land; Preserve Land

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$12,036.0</i>	<i>\$11,295.0</i>	<i>\$11,612.0</i>	<i>\$317.0</i>
Leaking Underground Storage Tanks	\$9,608.4	\$9,240.0	\$9,322.0	\$82.0
Total Budget Authority / Obligations	\$21,644.4	\$20,535.0	\$20,934.0	\$399.0
Total Workyears	101.4	108.1	108.1	0.0

Program Project Description:

The Underground Storage Tank (UST) program ensures that underground sources of drinking water (groundwater) are protected from petroleum and associated chemicals leaking from storage tanks. These chemicals may include benzene, methyl-tertiary-butyl-ether (MTBE), alcohols, or lead scavengers in gasoline. Even a small amount of petroleum released from an underground storage tank (UST) can contaminate groundwater. Preventing UST releases is more efficient and less costly than cleaning up releases after they occur, and is a primary goal of the program. This program helps prevent these releases by providing states and tribes with technical assistance and grants to inspect and manage these storage tanks.

These funds also help our state and Tribal partners ensure effective financial assurance mechanisms, ensure an effective and safe transition to alternative fuels, work with communities to bring formerly contaminated petroleum brownfields properties into productive use, and implement the revised UST regulations. Additionally, the EPA is primarily responsible for implementing the UST program in Indian country in partnership with tribes and maintaining information on USTs located in Indian country. With few exceptions, tribes do not have independent UST program resources.

Over the duration of the program, the EPA has found that lack of proper UST system operation and maintenance is a main cause of releases.^{304,305} As a result, in July 2015,³⁰⁶ the EPA finalized the updated federal regulations for the UST program. The EPA and the UST stakeholders will start implementing these new provisions in FY 2016. These resources support the EPA's cross-agency strategy of Making a Visible Difference in Communities and the people living and working near UST sites across the country by working with state,³⁰⁷ Tribal, and local partners to prevent releases from underground storage tanks.

³⁰⁴ Petroleum Releases at Underground Storage Tank Facilities in Florida, Peer Review Draft, US EPA/OUST, March 2005.

³⁰⁵ Evaluation of Releases from New and Upgraded Underground Storage Tanks, Peer Review Draft, US EPA/OUST, August 2004.

³⁰⁶ See: <http://www.gpo.gov/fdsys/pkg/FR-2015-07-15/pdf/2015-15914.pdf>.

³⁰⁷ States as referenced here also include the District of Columbia and the five territories as described in the definition of state in the Solid Waste Disposal Act.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will:

- Implement the revised UST regulations.
- Work with states and tribes to implement those regulations, and to provide guidance, training and assistance to the regulated community to improve understanding and compliance;
- Maintain efforts to meet the statutory mandate for the EPA or states to inspect every UST at least once every three years, and implementing other Energy Policy Act of 2005 (EPAAct) requirements, such as operator training, prohibiting delivery for non-complying facilities, and secondary containment of tanks and piping;
- Provide technical assistance, compliance help, and expert consultation to state, Tribal, and other agency partners on both policy and technical matters;
- Maintain efforts to ensure effective financial assurance mechanisms;
- Ensure an effective and safe transition to alternative fuels;
- Implement the UST program in Indian country, and
- Work with communities to bring formerly contaminated petroleum brownfields properties into productive use.

As stated in the Association of State and Territorial Solid Waste Management Official's *Development and Implementation of State Tanks Core Programs Report*,³⁰⁸ released June 2014, states spend the majority of their federal funds on inspection and enforcement. In FY 2017, the EPA anticipates that several states may no longer be in compliance with the EPAAct provision requiring each UST to be inspected at least once every three years due to declining state and federal program resources. Implementing operator training is another EPAAct provision that will draw heavily on the EPA and state resources. In FY 2017, using Environmental Program and Management funding to support these activities will be an important priority for the prevention program.

The EPA will provide technical assistance, compliance help, and expert consultation to state, Tribal, and other agency partners on both policy and technical matters. The EPA's assistance to the Tribal community is critical for advancing the UST prevention and compliance program in Indian country. This support will strengthen our network of federal, state, Tribal, and local partners (specifically communities and people living and working near UST sites) and ensure implementation of the UST regulations, including any revisions. The EPA will prepare guidance materials, provide training opportunities, and develop assistance tools, which will better prepare UST inspectors and better inform UST owners.

The EPA is committed to ensuring an effective and safe transition to alternative fuels, which includes identifying potentially widespread and avoidable environmental and health impacts. As a result, the EPA will continue to work with states and tribes to assess and ensure UST compatibility with alternative fuels. This is particularly important given the national growth in biofuels and other

³⁰⁸ For more information, see: http://www.astswmo.org/Files/Policies_and_Publications/Tanks/New_2014-06-ASTSWMO_Tanks_Core_Report_FINAL2.pdf.

emerging fuels. In FY 2017, the EPA will respond to the increased use of biofuels by implementing the revised UST regulations and through continued assessment of biofuels compatibility.

The EPA is working with communities to bring formerly contaminated properties into productive use. Many petroleum brownfields sites, predominately consisting of old gas stations, blight the environmental and economic health of surrounding neighborhoods. While the UST program and the Brownfields program jointly focus attention and resources on cleaning up and reusing petroleum-contaminated brownfield sites, the UST program provides technical expertise on petroleum-specific brownfields efforts. The UST program contributes to area-wide planning approaches that can help communities revitalize petroleum sites. In FY 2017, the EPA will continue implementing its Petroleum Brownfields Action Plan.³⁰⁹

Twice each year, the EPA collects data regarding UST performance measures and makes the data publicly available. The data include information such as the number of active and closed tanks, releases confirmed, cleanups initiated and completed, facilities in compliance with UST requirements, and inspections. The EPA compiles the data and presents it in table format for all states, territories, and Indian country.³¹⁰

Since 2007, the EPA has placed an increased emphasis on ensuring compliance through increased frequency of inspections and other EPA Act provisions.³¹¹ Each of the nation's 566,000 federally regulated USTs must be inspected every three years.³¹² During this time, compliance rates have increased and we have maintained low levels of newly confirmed releases. End of year FY 2015 data show:

- 86.4 percent of all cumulative confirmed releases have reached cleanup completion;
- 72.6 percent of the approximately 204,000 federally regulated UST facilities were in significant operational compliance, exceeding the FY 2015 performance target of 70.5 percent; and
- Releases are continuing to occur, with 6,830 reported for FY 2015.

Although the FY 2015 number of confirmed releases represents a slight increase, the increased emphasis on inspections and release prevention requirements have resulted in a general downward trend in the national number between 1996 and 2015.³¹³ This has occurred, despite an increase in the number of individual states missing their inspection targets due to decreased ability to pay inspectors. With the increase in the FY 2017 budget, the EPA will help those states meet their inspection targets.

Performance Targets:

Work under this program supports performance results in the LUST Prevention program under the LUST appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

³⁰⁹ For more information, see: <http://www.epa.gov/sites/production/files/2014-03/documents/petrobfactionplan2013.pdf>.

³¹⁰ For more information, see <http://www.epa.gov/ust/ust-performance-measures>.

³¹¹ For more information, see <http://www.epa.gov/ust/energy-policy-act-2005-and-underground-storage-tanks-usts>.

³¹² For more information, see <http://www.epa.gov/sites/production/files/2015-11/documents/ca-15-34.pdf>.

³¹³ For more information, see <http://www.epa.gov/sites/production/files/2015-11/documents/ca-15-34.pdf>.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$665.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$348.0) This program change decreases the agency's ability to provide tribes with compliance assistance and support. This decrease is offset by an increase of resources provided to help meet the 3 year inspection requirements under the EPAct.

Statutory Authority:

Resource Conservation and Recovery Act, §§ 8001, 9001-9011.

Program Area: Water: Ecosystems

National Estuary Program / Coastal Waterways

Program Area: Water: Ecosystems

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$27,528.5	\$26,723.0	\$27,191.0	\$468.0
Total Budget Authority / Obligations	\$27,528.5	\$26,723.0	\$27,191.0	\$468.0
Total Workyears	46.0	43.6	43.6	0.0

Program Project Description:

The National Estuary Program (NEP)/Coastal Waterways Programs works to restore the physical, chemical, and biological integrity of estuaries of national significance and coastal watersheds by protecting and restoring water quality, habitat, and living resources.³¹⁴

The water quality and ecological integrity of estuarine and coastal areas is critical to the economic vitality of the United States (U.S.). While the estuarine regions of the U.S. comprise just 12.6 percent of U.S. land area, they contain 43 percent of the U.S. population and provide 49 percent of all U.S. economic output.³¹⁵ The economic value of coastal recreation in the United States – for beach going, angling, bird watching, and snorkeling/diving – has been conservatively estimated by the National Oceanic and Atmospheric Administration (NOAA) to be in the order of \$20 billion to \$60 billion annually.³¹⁶ When natural resources such as fisheries are adversely impacted by upstream and coastal development, so too are the livelihoods of those who live and work in estuarine watersheds.

FY 2017 Activities and Performance Plan:

- In FY 2017, the EPA will provide \$16.8 million in Clean Water Act Section 320 grants for 28 National Estuary Programs (NEPs) (\$600 thousand per NEP). This funding continues the EPA support for implementation of the NEP Comprehensive Conservation and Management Plans.
- The EPA will continue to strengthen the capacity of coastal communities to adapt to the impacts of climate change and increase their resilience. The agency will provide technical assistance and tools for local organizations, including NEPs, to: (1) develop and implement “Climate-Ready Estuary” (CRE) models assessing watersheds’ vulnerabilities to climate change using a CRE workbook published in FY 2014; (2) develop and implement climate adaptation strategies; (3) engage and educate coastal stakeholders about climate change

³¹⁴ For more information, visit <http://www.epa.gov/owow/estuaries>.

³¹⁵ A 2007 Restore America’s Estuaries study, “The Economic and Market Value of Coasts and Estuaries.

³¹⁶ Pendleton, Lindwood. The Economic and Market Value of Coasts and Estuaries: What’s at Stake. Available at: <https://www.estuaries.org/the-economic-value-of-coasts-a-estuaries.html>.

impacts to water quality, habitat, and human well-being in their communities. The agency encourages and supports demonstration projects and widely shares examples and lessons learned about climate change adaptation.

- In FY 2017, the EPA will complete data analysis for the draft National Coastal Condition Assessment (NCAA) 2015 report. This report and the preceding five reports in this series are the only statistically-significant measures of coastal water quality that cover both national and regional scales. Information on coastal ecological conditions generated by the National Coastal Condition Reports is used by resource managers to efficiently and effectively target water quality actions and manage those actions to maximize benefits. The National Coastal Condition Assessment 2010³¹⁷ was based on estuarine coastal and Great Lakes monitoring data collected at over 1,000 sites around the United States during 2010.
- The NCCA 2010 finds that approximately,
 - 67 percent of waters have good to fair biological condition.
 - 84 percent of waters are rated good or fair for water quality.
 - 76 percent of waters are rated good or fair based on sediment quality index.
 - 27 percent of waters are rated good or fair based on an indicator of ecological fish tissue contaminants.
- The EPA will continue to partner with NOAA on ocean acidification by participating in Interagency Work Group of Ocean Acidification efforts. Additionally, we will be pursuing an MOA with NOAA regarding collaborative monitoring efforts, particularly in the vicinity of NEP and National Estuarine Research Reserve System sites.
- Recent improvements in scientific measurement of carbon sequestered in coastal wetlands indicate that preservation and restoration of coastal wetlands can have significant greenhouse gas reduction benefits, while also reducing storm impacts on coastal areas and enhancing habitat and water quality. The existing NEPs are excellent candidates for developing these “Blue Carbon” opportunities. The EPA will work with NEPs to identify and support key coastal restoration projects that can serve as pilot projects featuring different natural, social and economic characteristics.
- The EPA, as the federal chair of the Gulf Hypoxia Task Force, will work with the other federal agencies and the states that are Task Force members to continue implementation of the 2008 Gulf Hypoxia Action Plan. This activity complements other coordination and implementation resources in the Geographic Program: Gulf of Mexico and Surface Water Protection Program. A key goal of the Gulf Hypoxia Action Plan is to improve water quality in the Mississippi River Basin and the Gulf of Mexico by implementing existing and innovative program approaches to reduce nitrogen and phosphorus pollution into the Basin and to the Gulf. Hypoxia Task Force members are implementing nutrient reduction strategies, partnering with the Land Grant Universities, and developing measures to track progress and identify a need for adaptive management. Excessive nutrients can have both

³¹⁷ U.S. Environmental Protection Agency. Office of Water and Office of Research and Development. (2015). National Coastal Condition Assessment 2010 (EPA 841-R-15-006). Washington, DC. December 2015.

ecological and human health effects – high nitrate levels in drinking water have been linked to serious illness.³¹⁸ In addition to the public health risks, the economic costs from impaired drinking water are considerable. Effective nutrient reduction in the Gulf will be coordinated with other Hypoxia Task Force agencies, such as the U.S. Department of Agriculture and U.S. Geological Survey, in high-priority watersheds. Starting in 2015, the EPA will submit through the Task Force, a progress report to Congress every other year.

Performance Targets:

Measure	(202) Acres protected or restored in National Estuary Program study areas.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	Acres
Actual	89,985	62,213	114,575	127,594	93,557	111,584			

Resources support efforts to achieve the EPA’s goal of protecting and restoring 100,000 additional acres of habitat in FY 2017 and promoting alignment of National Estuary Program restoration goals with those of Tribal, state, regional, and local agencies. Since 2002, approximately 1.5 million acres of habitat have been protected or restored within the NEP study areas.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$634.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$566.0) This program change reflects a reduction in NEP oversight and administration and coastal waterway support.
- (+\$400.0) This program change reflects an increase in NEP “Blue Carbon” pilot projects. The EPA will support the NEPs to help further their understanding of blue carbon in their estuaries. This could include development and promotion of standardized methods to measure and map carbon, or understand how to incorporate blue carbon into their habitat restoration and protection efforts.

Statutory Authority:

1990 Great Lakes Critical Programs Act of the Clean Water Act; Great Lakes Legacy Reauthorization Act of 2008; Clean Water Act, Section 320; Estuaries and Clean Waters Act of 2000; Protection and Restoration Act of 1990; North American Wetlands Conservation Act; Water Resources Development Act; 2012 Great Lakes Water Quality Agreement; 1987 Montreal Protocol on Ozone Depleting Substances; 1909 Boundary Waters Treaty.

³¹⁸ U.S. Environmental Protection Agency. Office of Water and Office of Research and Development. (2015). National Coastal Condition Assessment 2010 (EPA 841-R-15-006). Washington, DC. December 2015.

Wetlands

Program Area: Water: Ecosystems

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$20,920.3	\$21,065.0	\$23,668.0	\$2,603.0
Total Budget Authority / Obligations	\$20,920.3	\$21,065.0	\$23,668.0	\$2,603.0
Total Workyears	133.6	137.3	137.3	0.0

Program Project Description:

The EPA's Wetlands Protection program has two primary areas: the Clean Water Act (CWA) Section 404 regulatory program and the state and Tribal development program, both of which use authorities established under the CWA to ensure effective, scientifically based and coordinated efforts to protect the nation's water resources. The Wetlands Protection program operates under the broad national goal of "no net loss" of wetlands for the Section 404 permit policy and review functions, and strives to increase the quality and quantity of wetlands nationwide.

Major activities of the program include development and dissemination of guidance, information and scientific tools to improve management and public understanding of wetland programs and legal requirements; review of Section 404 permit applications submitted to the U.S. Army Corps of Engineers (Corps) or authorized states; and assistance to support development of state and Tribal wetland protection programs under the CWA.

Wetlands provide numerous functions critical to the nation's public health and environmental integrity. According to one assessment of natural ecosystems, the dollar value of wetlands worldwide was estimated to be \$14.9 trillion.³¹⁹ Wetlands improve water quality; recharge water supplies, including public drinking water sources; provide many recreational opportunities, including hunting and fishing; reduce flood risks and storm damage; provide fish and wildlife habitat; and support valuable recreational and commercial fishing and shellfish industries. For example, coastal wetlands were estimated in calendar year 2008 to provide \$23 billion of storm protection services each year in the United States.³²⁰

FY 2017 Activities and Performance Plan:

Improve Transparency and Strengthen Coordination:

A key activity in FY 2017 will be to implement our efforts to increase transparency and strengthen coordination as we administer the Clean Water Act Section 404 program with the U.S. Army Corps

³¹⁹ Costanza, et. al. (1997) The value of the world's ecosystem services and natural capital." Nature 387:253-260.

³²⁰ Costanza et al. (2008) The Value of Coastal Wetlands for Hurricane Protection. Royal Swedish Academy of Sciences Ambio Vol. 37, No. 4, June 2008.

of Engineers. The EPA Administrator and Deputy Assistant Secretary of the Army have committed to a number of actions in Memoranda of July and November of 2015 that will improve the implementation of the CWA Section 404 regulatory program, particularly with respect to geographic jurisdiction following the finalization of the Clean Water Rule. The EPA and Army will be providing increased access to jurisdictional determinations, as well as improving aspects of the permit process to address concerns with delay, inconsistency, and lack of information. The EPA also will continue to provide questions and answers on our websites, hold webinars, and develop other resources to assist the public with their understanding of the program.

The value of our nation's water is tremendous. At least 117 million Americans—more than one-third of the U.S. population—get at least part of their drinking water from sources that are fed by small streams.³²¹ In FY 2015, the EPA and the Corps completed a rulemaking that provides greater consistency, certainty, and predictability nationwide regarding where the CWA applies – and where it does not. The EPA and the Corps are currently complying with a court-ordered nationwide stay preventing application of the new rule and are implementing the previous regulations in the interim.

Implement Clean Water Act Section 404:

The Corps has responsibility for managing the day-to-day permit processes under Section 404 of the CWA across the nation, and the EPA has a statutory role to provide input to the Corps as it develops proposed permits. Also, the EPA has an oversight role in the Section 404 program in the states of Michigan and New Jersey, which have assumed the responsibility for Section 404 permitting in some waters of their respective states. In its national role, the EPA develops and interprets environmental criteria for evaluating permit applications; has final authority to determine the scope of CWA jurisdiction; approves and oversees state assumption; identifies activities that are exempt from permitting; reviews and comments on individual permits; has authority to prohibit, deny or restrict the use of waters as a disposal site (Section 404(c)); can elevate specific proposed Corps permit decisions to Army Headquarters (Section 404(q)); and enforces Section 404 provisions.

The EPA tracks its performance and agency actions regarding Section 404 permit review using the *Data on Aquatic Resources Tracking for Effective Regulation* (DARTER) tracking system. In FY 2015, the EPA tracked 1,826 Clean Water Act Section 404 standard permit public notices for proposed projects in DARTER, and reviewed and sent a total of 211 comment letters on 192 of those projects. For 94 percent of these 192 projects, the EPA sent its comment letter(s) to the Corps within 60 days of the requests(s) for comments. Starting in FY 2014, the agency began tracking additional information regarding the EPA's comments and environmental improvements related to Section 404 permitting, such as mitigation success. When the EPA provided comments and recommendations on Corps' Section 404 standard permit decisions made in FY 2015 (i.e., permit was issued, denied or withdrawn) during the permit review period, the EPA's input led to environmental improvements in the final permit outcome 85 percent of the time. Examples of improvements include: more accurate impact analyses, improvements in impact avoidance and

³²¹ U.S. EPA (2009). Percentage of Surface Drinking Water from Intermittent, Ephemeral, and Headwater Streams. http://water.epa.gov/lawsregs/guidance/wetlands/surface_drinking_water_index.cfm.

minimization measures, and adoption of a more effective compensatory mitigation plan to offset unavoidable impacts.³²²

The agency, working with the Corps and other partners, will continue to implement the joint Corps-EPA Compensatory Mitigation Rule finalized in FY 2008 and as described in recently released Corps/EPA mitigation rule retrospective report (IWR 2015)³²³, the Corps and EPA will continue support for educational opportunities to all stakeholders (e.g., Interagency Review Teams, mitigation bank and in-lieu fee program sponsors, an Federal field staff) and database enhancements to improve and expand upon existing capabilities. The EPA's primary goal is to avoid or minimize aquatic resource losses. Where losses are unavoidable, the EPA and the Corps promote using a watershed approach to compensatory mitigation site selection and design, using flexible tools such as mitigation banking and in-lieu fee mitigation programs to help offset lost aquatic resource functions. The EPA and the Corps will provide technical training in targeted regions, in addition to providing our annual training course on mitigation banking and in-lieu fee programs for interagency review teams. In partnership with the U.S. Fish and Wildlife Service (USFWS), the EPA will continue emphasis on stream assessment and monitoring in order to develop functionally-based crediting and debiting protocols and ecological performance standards for stream compensatory mitigation projects. The EPA will continue to focus on wetland and stream corridor restoration to regain lost aquatic resources and with the Corps will develop stream functional assessments.

The EPA will work to develop and disseminate improved technical information regarding the aquatic resource effects of pollutants from mining-related discharges to waters of the U.S. These activities will enable the agency to assist the Corps in the review of proposed projects, identify environmental concerns, minimize impacts, and work together toward timely and defensible permit decisions that meet the requirements of the law.

In FY 2017, the EPA will conduct activities pursuant to responsibilities as a member of the Gulf Coast Ecosystem Restoration Council authorized under the RESTORE Act. Activities will include coordinating with the Army Corps of Engineers and other federal, state, and local partners to design and implement RESTORE Act projects, and reviewing proposed activities that require authorization by the Corps under CWA Section 404.

The EPA and the Corps will work together to increase predictability and reduce the time required to conduct jurisdictional determinations as well as evaluate and consider options for improving efficiencies in federal CWA permitting that could help reduce potential costs and delays, increase consistency and predictability, and improve protection for public health and the environment. In FY 2016, the EPA will provide input to the Corps as they renew and issue new nationwide permits in FY 2017.

The EPA also will continue to conduct training for new staff and other entities interested in the Section 404 program as well as intermediate and advanced training to explore programmatic

³²² Data on Aquatic Resources Tracking for Effective Regulation (DARTER) database results for FY15, U.S. Environmental Protection Agency.

³²³ IWR (U.S. Army Corps of Engineers Institute for Water Resources). 2015. The Mitigation Rule Retrospective: A Review of the 2008 Regulations Governing compensatory Mitigation for Losses of Aquatic Resources, *available at* <http://www.iwr.usace.army.mil/Portals/70/docs/iwrreports/2015-R-03.pdf>.

initiatives that may be implemented to expedite permit processes, while improving CWA protections.

Implement Executive Order 13604 for Modernizing Federal Permitting and Review:

Although the agency is not the principal permitting agency for CWA Section 404 permits, the agency has a statutory role to provide input to the Corps as it reviews proposed discharges. The agency will continue to work with the Corps in its implementation of the Executive Order for efficient permit decisions for nationally and regionally significant infrastructure projects. As necessary, the EPA also will participate in interagency forums designed to effectively resolve issues of concern and ensure that permit decisions are both timely and environmentally protective. This work will coincide with recommendations to enhance the Section 404 permitting program that will be developed with the Corps in FY 2016.

Build State and Tribal Wetlands Program:

The EPA will continue to work with its state and Tribal partners to strengthen their wetland programs in the areas of monitoring and assessment, voluntary restoration and protection, regulatory programs (including CWA Section 401 certification), and wetland water quality standards. The agency will assist states and tribes to develop and implement integrated monitoring and assessment programs that improve wetland data for decision-making on wetlands within watersheds. In addition, the EPA will continue to work with states and tribes interested in assuming administration of the CWA Section 404 program. In FY 2017, the EPA expects to implement actions clarifying the requirements for a state assuming the Section 404 permit program, based on recommendations from a subcommittee of the National Advisory Council for Environmental Policy and Technology federal advisory committee that began work in FY 2016. In support of state and Tribal wetland programs, the EPA will continue to administer Wetland Program Development Grants with a focus on working more efficiently with states and tribes to achieve specific program development outcomes.³²⁴

Continue the National Wetland Condition Assessment:

The EPA's National Wetland Condition Assessment is part of the National Aquatic Resource Surveys, designed to assess the condition of our nation's waters while advancing state capacity to monitor and assess aquatic resources. Taken together, the National Wetland Condition Assessment and the USFWS *Wetland Status and Trends* results will be used to measure progress toward attainment of the national strategic goal to increase the quantity and quality of the nation's wetlands. The National Wetland Condition Assessment will be published in FY 2016 and will represent the first-ever statistically valid comprehensive survey of national wetland condition. In FY 2017, the EPA and its partners will analyze laboratory samples and perform quality control measures, as well as initiate data analysis of the second National Wetland Condition Assessment.

Lead Interagency Team to Study and Address Coastal Wetlands Loss:

³²⁴ For more information, visit <http://www.epa.gov/owow/wetlands/> or <http://www.cfda.gov>.

The USFWS reports the loss of 84,100 acres of wetlands in coastal watersheds between calendar year 2004 and 2009.³²⁵ The EPA will use the agency’s wetland program resources and authorities to improve coastal wetland natural resource protection and to collaborate with other agencies on coastal wetland restoration, including following through on the agency’s designated actions for the Regional Ecosystem Restoration and Protection Objective of the National Ocean Policy. The Atlantic coast and the Gulf of Mexico will remain areas of emphasis and attention, in light of documented wetland losses in these regions.

Performance Targets:

Measure	(4E) In partnership with the U.S. Army Corps of Engineers, states, and tribes, achieve no net loss of wetlands each year under the Clean Water Act Section 404 regulatory program. ("No net loss" of wetlands is based on requirements for mitigation in CWA 404 permits and not the actual mitigation attained.)								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss	Acres
Actual	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss			

Measure	(4G) Number of acres restored and improved under the 5-Star, NEP, 319, and great water body programs (cumulative).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	110,000	150,000	170,000	190,000	220,000	230,000	290,000	305,000	Acres
Actual	130,000	154,000	180,000	207,000	221,000	275,555			

In FY 2015, the EPA, in partnership with the U.S. Army Corps of Engineers, states and tribes was able to report “no net loss” of wetlands under the Clean Water Act Section 404 regulatory program. Since FY 2002, more than 275,000 acres of wetlands have been restored and improved under the 5-Star, NEP, Section 319 and Great Water Body programs.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$832.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$1,771.0) This program change reflects an increase in support to the EPA’s implementation of core Clean Water Act responsibilities under Section 404, including timely review of Section 404 permits, science and technical reviews needed for defensible permits, and support for state and Tribal efforts to establish and implement effective wetland protection programs.

Statutory Authority:

Clean Water Act, § 404.

³²⁵ Status and Trends of Wetlands in the Conterminous United States 2004 to 2009, available at: <http://www.fws.gov/wetlands/Documents/Status-and-Trends-of-Wetlands-in-the-Conterminous-United-States-2004-to-2009.pdf>

Program Area: Water: Human Health Protection

Beach / Fish Programs

Program Area: Water: Human Health Protection

Goal: Protecting America's Waters

Objective(s): Protect Human Health

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$2,412.4	\$1,982.0	\$775.0	(\$1,207.0)
Total Budget Authority / Obligations	\$2,412.4	\$1,982.0	\$775.0	(\$1,207.0)
Total Workyears	2.7	3.8	3.8	0.0

Program Project Description:

The Beach/Fish Program provides up-to-date-science, guidance, technical assistance, and nationwide information to state, Tribal, and federal agencies on the human health risks associated with eating locally caught fish with contaminants at levels of concern. The agency pursues the following activities to support this program: (1) developing and disseminating methodologies and guidance that states and tribes use to sample, analyze, and assess fish tissue in support of waterbody specific or regional consumption advisories; (2) developing and disseminating guidance that states and tribes can use to conduct local fish consumption surveys; (3) developing and disseminating guidance that states and tribes can use to communicate the risks of consuming chemically contaminated fish; and (4) gathering, analyzing, and disseminating information to the public and health professionals that inform decisions on when and where to fish, and how to prepare fish caught for recreation and subsistence. This program is part of the EPA's ongoing effort to increase public awareness of the risks to human health associated with the consumption of fish contaminated with mercury, an effort directly linked to the agency's mission to protect human health.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to:

- Update science and public policy to assess and manage the risks and benefits of fish consumption; and
- Provide technical support to states in the operation of their fish advisory programs.

Performance Targets:

Measure	(fs1) Percent of women of childbearing age having mercury levels in blood above the level of concern.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	5.1	4.9	4.9	4.9	4.9	2.3	2.3	2.3	Women of Childbearing Age
Actual	Data Unavailable	Data Unavailable	2.3	2.3	2.3	1.8			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$98.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$1,305.0) This program change reflects a reduction in Beach support and aligns with the proposed elimination of the Beach Grant Program in the State and Tribal Assistance Grants (STAG) account.

Statutory Authority:

Clean Water Act, § 104.

Drinking Water Programs

Program Area: Water: Human Health Protection

Goal: Protecting America's Waters

Objective(s): Protect Human Health

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$97,916.7</i>	<i>\$96,525.0</i>	<i>\$108,662.0</i>	<i>\$12,137.0</i>
Science & Technology	\$3,487.4	\$3,519.0	\$3,923.0	\$404.0
Total Budget Authority / Obligations	\$101,404.1	\$100,044.0	\$112,585.0	\$12,541.0
Total Workyears	501.5	522.7	522.7	0.0

Program Project Description:

The EPA’s Drinking Water Program is based on a multiple-barrier and source-to-tap approach to protecting public health from contaminants in drinking water. The EPA protects public health through: (1) source water assessment and protection programs; (2) promulgation of new or revised, scientifically sound National Primary Drinking Water Regulations (NPDWRs); (3) training, technical assistance, public health and environmental education, and financial assistance programs to enhance public water system capacity to comply with existing and new regulations; (4) underground injection control programs; (5) supporting implementation of NPDWRs by state and Tribal drinking water programs through regulatory, non-regulatory, and voluntary programs and policies; and (6) providing states and tribes with resources and tools to support the financing of water infrastructure improvements.³²⁶

Aging systems and the increasing impacts of climate change create challenges but also opportunities for innovation and new approaches for drinking water and wastewater infrastructure. The President’s Budget includes \$2 billion for the EPA’s Clean Water and Drinking Water State Revolving Funds (SRFs) and over \$22 million in technical assistance, training, and other efforts to enhance the capacity of communities, states, and private investors to plan and finance drinking water and wastewater infrastructure improvements. Funding will be used to expand the technical, managerial, and financial capabilities of drinking water systems to reliably provide safe drinking water to their customers now and into the future. The SRFs also are complemented by \$20 million included in the new Water Infrastructure Finance and Innovation Act (WIFIA) program, through which EPA will make direct loans to regionally or nationally significant water infrastructure projects. This investment is designed to promote economic growth through innovative financing, techniques such as system partnerships, capacity building, full cost pricing, and public and private collaboration. These initiatives will complement the successful state revolving fund programs.

³²⁶ For more information, please see <http://www.epa.gov/safewater> and <https://www.cfda.gov> for more information.

FY 2017 Activities and Performance Plan:

Safe drinking water is critical to protecting human health and the economic vitality of the nation. Approximately 320 million Americans rely on the safety of tap water provided by public water systems (PWSs) that are subject to national drinking water standards.³²⁷ In FY 2017, the EPA will continue to protect the public from contaminants in the drinking water by: (1) developing new and revising existing drinking water standards; (2) supporting states, tribes, and water systems in implementing standards; (3) promoting sustainable management of drinking water systems; and (4) implementing the underground injection control program. For FY 2017, the agency's goal is that 92 percent of the population served by community water systems (CWSs) will receive drinking water that meets all applicable health-based standards. In FY 2015, 91 percent of the population served by CWSs received drinking water that met all applicable health-based drinking water standards. Ongoing challenges include aging infrastructure and violations related to the Total Coliform Rule, the Lead and Copper Rule, the State 2 Disinfectants and Disinfection Byproducts Rule, and the nitrates regulation. Also, in FY 2015, CWSs provided safe drinking water during 96 percent of total person months (all persons served by community water systems multiplied by 12 months), surpassing the performance target of 95 percent.

The agency will continue to implement the Drinking Water Strategy in FY 2017 to expand public health protection for drinking water.³²⁸ The strategy focuses on: (1) addressing contaminants in groups to accelerate advancement of drinking water protection; (2) fostering development of new innovations in drinking water technologies (especially those applicable to small systems) to address health risks posed by a broad array of contaminants; (3) finding ways to use the authority of multiple statutes to help protect drinking water; and (4) partnering with the states to share more complete data from monitoring at PWSs.

Drinking Water Implementation

In FY 2017, the agency will continue to work with states to implement requirements for all NPDWRs to ensure that systems install and maintain appropriate levels of treatment and effectively manage their distribution systems. In particular, the EPA will continue to focus on working with states on implementation of newer requirements to protect against *Cryptosporidium*, to control disinfection byproducts, and to implement the Revised Total Coliform Rule.

While most small systems consistently provide safe and reliable drinking water to their customers, many small systems face challenges with aging infrastructure, complying with regulatory requirements, workforce shortages and high staff turnover, increasing costs, and declining rate bases. In FY 2015, small community water system violations made up 94 percent of overall violations.³²⁹ However, in Indian Country, while the 87 percent target was exceeded, only 88 percent of the population served by CWSs received drinking water that met all applicable health-based standards. The EPA will continue to focus on small systems under the following principles: (1) strive to provide every person served by a public water system with safe drinking water; (2)

³²⁷ U.S. Environmental Protection Agency Safe Drinking Water Information System (SDWIS/FED), <http://water.epa.gov/scitech/datait/databases/drink/sdwisfed/index.cfm>.

³²⁸ For more information, please see <http://water.epa.gov/lawsregs/rulesregs/sdwa/dwstrategy/index.cfm> for additional information.

³²⁹ <http://water.epa.gov/scitech/datait/databases/drink/sdwisfed/pivottables.cfm>.

target assistance to small systems that are most in need; and (3) use a variety of strategies to address the full spectrum of needs in order to promote the long-term sustainability of small systems.

The EPA continues to work with states and tribes, as well as with utility associations, third-party technical assistance providers and other federal partners, to promote the sustainability practices that are the foundation for building technical, managerial, and financial capacity, known as Capacity Development.³³⁰ This includes the implementation of system-wide planning practices such as asset management, water conservation and efficiency, energy efficiency, rate setting and effective pricing practices. In FY 2015, the EPA met the small drinking water system priority goal– to have additional states and tribes improve system capacity:

- By September 30, 2015, the EPA will engage with an additional ten states (for a total of 30 states) and three tribes to improve small drinking water system capability to provide safe drinking water, an invaluable resource.

As a result of the FY 2014 and FY 2015 activities in support of Agency Priority Goal, the EPA significantly improved the technical, managerial and financial support capability of 32 states and tribes. All states participated at varying levels in the EPA’s capacity development, treatment optimization, or improving system resiliency programs.

The successful achievement of the Agency Priority Goal demonstrates the success of the EPA’s long term collaboration with the states to assist small drinking water systems. The EPA will continue to engage States as well as water sector stakeholders to provide the necessary training and technical assistance needed to ensure sustainability of small public water systems. Emphasizing the importance of asset management planning, water and energy efficiency practices, and other utility management and financial practices is key to improving the long-term success of small drinking water systems. In addition, the EPA will continue to collaborate with the U.S. Department of Agriculture (USDA) to provide assistance to small drinking water systems struggling to comply with drinking water regulations and/or lacking an adequate governance structure to keep the system operating sustainably.

In FY 2017, the agency will continue to develop and support programs and activities in ways that are aligned with the E-Enterprise business strategy, an integral part of the agency’s focus on launching a new era of state, local, Tribal, and international partnerships. E-Enterprise for the Environment is a transformative 21st century strategy – jointly governed by states and the EPA – for modernizing government agencies’ delivery of environmental protection. Under this strategy, the agency will streamline its business processes and systems to reduce reporting burden on states and regulated facilities, and improve the effectiveness and efficiency of regulatory programs for the EPA, states and tribes.

Key to addressing the most pressing public water system issues is being able to identify which systems have the greatest need and then efficiently interacting with those systems. In FY 2017, the EPA will continue work with states to develop SDWIS Primacy Agency, formerly known as SDWIS NextGen. SDWIS Primacy Agency is a centralized, cloud-hosted system that will replace SDWIS State and other systems that are hosted and operated separately by each primacy agency.

³³⁰ Read more on Capacity Development at <http://water.epa.gov/type/drink/pws/smallsystems/index.cfm>.

Benefits of this transition to SDWIS Primacy Agency include improvements in program efficiency and data quality, greater public access to drinking water data, facilitation of electronic reporting, reductions in reporting burdens on laboratories and water utilities, reductions in data management burden for states, and ultimately reduction in public health risk.

The SDWIS Primacy Agency will focus on the following:

- 1) Providing tools to states that will automate preliminary compliance determinations. This will increase ease and consistency in determining whether systems are in compliance with drinking water rules and accelerate state response actions;
- 2) Automating processes for verifying the accuracy of data;
- 3) Providing tools for states to track water system needs and progress, enabling more efficient targeting of state support actions;
- 4) Supporting efficient electronic transfer of drinking water data between laboratories, states and the EPA; and
- 5) Reducing states' and the EPA's total cost of system ownership through a central system.

The transition to the new program management system will enable states to save resources currently used to maintain individual data systems allowing funds and staff to be redirected for other public health protection activities such as providing additional technical assistance to systems in non-compliance and most in need. States will be able to use a new system that will improve the overall accuracy and availability of data on drinking water quality.

Consistent with E-Enterprise, the agency began the transition to all-electronic reporting in the drinking water program in FY 2014 by conducting analyses of what data would be reported electronically and determining which shared services could be leveraged and what technology should be constructed to transmit the data. In FY 2015, the agency completed the requirements analysis for the SDWIS Drinking Water Gateway and began software development activities. The software development approach that the EPA is using for building the Gateway involves a high level of state engagement in verifying that the system is meeting the requirements. Initial development of the Gateway was completed in December 2015. The EPA will work with the states and representative water systems and laboratories to complete end-to-end testing of the Gateway and begin making the system available to states, laboratories, and water systems for electronic reporting of compliance monitoring data to primacy agencies in early FY 2017. The EPA will be transitioning states to the Gateway by holding "train the trainer" sessions followed by state-led training sessions to laboratories and water systems.

In FY 2017, the EPA also will continue the following activities in order to facilitate compliance with rules:

- Support states in their efforts to assist small systems in attaining and maintaining the technical, managerial, and financial capacity to consistently meet regulatory requirements and achieve long-term sustainability;
- Oversee the national Public Water System Supervision (PWSS) program by working with states to establish drinking water program priorities, reviewing state programs, measuring program results, and administering the PWSS Grants;

- Directly implement the Aircraft Drinking Water Rule, which protects millions of people who travel on over five thousand aircraft in the U.S.;
- Directly implement the drinking water program where states do not have primacy (*e.g.*, Wyoming, the District of Columbia, and most Tribal lands), and carry out direct implementation activities where states have not yet adopted new regulations; and
- Provide oversight, training, and technical assistance to states, tribes, and public water systems on the implementation of drinking water regulations and sustainable management practices.

Drinking Water Standards

To assure the American people that their water is safe to drink, the EPA's drinking water regulatory program monitors for a broad array of contaminants, evaluates whether contaminants are of public health concern, and regulates, when public health is at risk. As part of the Drinking Water Strategy, the EPA will continue to focus on regulating groups of drinking water contaminants, which may more effectively address potential risks and could create a more efficient framework for regulating similar contaminants and/or groups in the future. Realizing the efficiencies of group regulations will require more scientific input, complex analyses, and supporting documentation than a regulation for a single contaminant. The innovative nature of the group regulation also dictates the need for increased public/scientific outreach and comment in the form of webinars and/or public meetings. The EPA will continue its communication with states, tribes, and communities, thereby maintaining confidence in the quality of drinking water.

The agency will continue to evaluate and address drinking water risks in FY 2017, including:

- Evaluating additional scientific data to assist in the determination of whether there is a meaningful opportunity for health risk reduction by regulating strontium in drinking water. In FY 2016, the EPA has published final regulatory determinations for the third Contaminant Candidate List. Strontium was among the contaminants considered for a regulatory determination. However, the EPA delayed the regulatory determination for strontium to consider additional scientific data. The EPA is evaluating recent data related to human exposure to strontium and new health studies on the effects of strontium exposure.
- Proposing a perchlorate national primary drinking water regulation based on substantial scientific analysis conducted by the EPA, the recommendations of the Science Advisory Board (SAB), and collaboration with the Food and Drug Administration to inform the derivation of a perchlorate Maximum Contaminant Level Goal (MCLG) and regulation. The EPA will conclude peer review of the methodology used to inform the derivation of the perchlorate MCLG and propose a National Primary Drinking Water Regulation for perchlorate in FY 2017.
- Considering recommendations garnered from the National Drinking Water Advisory Council (NDWAC) in development of the proposed revisions to the Lead and Copper Rule (LCR) which will be published in FY 2017. The Retrospective Review of the LCR sought ways to simplify and clarify requirements imposed on drinking water systems to maintain safe levels of lead and copper in drinking water. As part of this process, the NDWAC provided LCR recommendations to the Administrator in FY 2016. In addition, public comments received in response to the proposed revisions to the Lead and Copper Rule

(LCR) will be considered and evaluated in the development of a final rule for publication in FY 2018.

- Proposing regulations for the Reduction of Lead in Drinking Water Act of 2011. The EPA will review and evaluate the public comments received on the proposed rule, which was published in FY 2016. This rule clarifies and codifies the changes to the definition of lead free plumbing materials. The final rule will be published in FY 2018.
- Publishing the results of the third Six-Year Review of more than 80 existing drinking water regulations for chemical, microbial, and radiological contaminants. The agency will have assessed and analyzed scientific data/information regarding occurrence, treatment, analytical methods, and health effects to evaluate whether there are new or additional ways to manage risk while assuring equivalent or improved public health protection.

Sustainable Infrastructure and Sustainable Systems

With the aging of the nation's critical water infrastructure and a growing need for investment, the drinking water and wastewater sectors face a significant challenge to maintain and advance the achievements attained in protecting public health and the environment. The EPA's water and wastewater sustainability efforts are designed to promote more effective management of water systems in order to continuously improve their performance and achieve long-term sustainability.

The EPA will invest over \$9 million in a capacity building and small system partnership initiative to promote system-wide planning that reflects climate resiliency, asset management, energy management, and reduction of water loss. In addition, the agency will provide technical assistance to states and drinking water systems on effective pricing structures that cover a systems full capital and operations and maintenance costs while also encouraging water efficiency. The goals of this initiative is to:

- Develop new capacity building efforts that emphasize climate resiliency planning so communities of all sizes can better plan for future water conditions such as drought and flooding. Tools and training will be developed and disseminated to systems on viable techniques to manage extreme water conditions including opportunities for water reuse and aquifer storage and recovery.
- Promote sound asset management by educating systems on the importance of having detailed asset inventories, performing operation and maintenance tasks, identifying opportunities to reduce energy consumption and control water loss, and long-range financial planning to ensure that repair and replacement are conducted efficiently, and that annual revenue reserves and reinvestment are sufficient to facilitate long-term sustainability of the system to serve its community.
- Support small system partnerships through dissemination of best practices, training, and technical assistance to help small systems plan and facilitate regionalization or consolidation agreements in order to improve the delivery of safe water, reduce operational costs, and increase rate bases.
- Maximize the water sector's capability to prevent and mitigate the duration and severity of interruptions to the delivery of safe drinking water. To support these efforts, the agency has established an FY 2016-2017 Agency Priority Goal to advance resilience in the nation's water infrastructure, while protecting public health and the environment, particularly in

high-risk and vulnerable communities. By September 30, 2017, the EPA will provide technical assistance and other tools to 25 urban communities to advance green infrastructure planning and implementation efforts to increase local climate resilience and water quality protections in stormwater infrastructure. The EPA also will provide tools and training for 1,000 operators of small water utilities to improve resilience in drinking water, wastewater, and stormwater systems. Trainings will be targeted based on regional vulnerabilities, such as drought and flooding.

In addition, the EPA's FY 2017 budget includes resources for the Water Infrastructure and Resiliency Finance Center to help communities across the country improve their wastewater, drinking water, and stormwater systems, particularly through innovative financing and building resiliency to climate change. These investments are designed to enhance system capacity and ultimately increase the efficiency and effectiveness of available water infrastructure funding.

The FY 2017 budget also continues to provide funding for the Environmental Finance program that manages the Environmental Financial Advisory Board. This program also provides grants to a network of university-based Environmental Finance Centers which deliver financial outreach services, such as technical assistance, training, expert advice, finance education, and full cost pricing analysis to states, local communities and small businesses.

The EPA will continue to encourage drinking water systems to adopt sustainable management practices by providing funding, technical assistance, and training including the following:

- Providing states with funds, through the Drinking Water State Revolving Fund (DWSRF) capitalization grants, for low-interest loans to assist utilities with financing drinking water infrastructure needs and to support utility compliance with SDWA standards;
- Working with states to use the set-asides in the DWSRF to build water system capacity through technical and managerial support to small water systems;
- Working with states, tribes, water systems, and other stakeholders to enhance water system technical, financial, and managerial capacity to address infrastructure replacement and rehabilitation, and enhance system performance and efficiency;
- Providing effective oversight of the DWSRF funds;
- Collaborating with the USDA to coordinate funding for infrastructure projects and increase the sustainability of small and rural water systems to ensure the protection of public health, water quality, and communities.
- Continuing to work with the states to enhance their capacity development and operator certification programs to ensure effective and ongoing compliance by PWSs with the SDWA;
- Partnering with states and utility associations as part of the EPA's Sustainability Policy to promote: upfront planning processes to ensure that projects are environmentally and financially sustainable; system partnerships to achieve greater efficiencies; and development of asset management programs, water and energy efficiency, and source water protection approaches to manage water resources; and
- Working with states, other federal agencies, and utility associations to identify options for utilities in response to climate change impacts and water resource limitations.

Source Water Protection

The EPA will continue to partner with states, drinking water utilities, and other stakeholders to identify and address current and potential sources of drinking water contamination. These efforts are integral to the sustainable infrastructure effort because source water protection can reduce the need for additional drinking water treatment and the associated additional infrastructure costs and energy usage, while better protecting public health. In the past two years, there have been harmful algal blooms on Lake Erie and along the Ohio River, and a chemical storage tank leak on the Elk River in Charleston, WV that impacted access to safe drinking water for residents, hospitals, schools, and businesses in these communities. These events highlight the importance of safe drinking water to public health and local economies, and in particular, the need to prioritize threats and protect drinking water sources. The EPA will continue to partner with states, drinking water utilities, and other stakeholders to identify and address current and potential sources of drinking water contamination. Success has resulted from these efforts, as 90 percent of CWSs met all applicable health-based standards through approaches that included source water protection in FY 2015, meeting the performance target of 90 percent.

In FY 2017, the agency will:

- Continue to work with national, state, Tribal, local stakeholder organizations, and the Source Water Collaborative³³¹ to promote a unified approach in protecting drinking water sources and to update source water assessments and plans as information becomes available. Building on the Collaborative's FY 2016 "Call to Action," the EPA will support an "Innovation Challenge" to assist communities in source water protection activities and projects and to improve data collection and sharing to facilitate integration of Clean Water Act (CWA) activities with source water assessments.
- Work with other federal agencies to support state, Tribal, and local source water protection actions.
- Continue the partnership with the American Water Works Association (AWWA) and the Association of State Drinking Water Administrators (ASDWA) to encourage and support states, drinking water utilities, and local communities in redoubling their efforts to identify drinking water systems vulnerable to threats to source waters, revisit their source water assessments, and take steps to ensure that adequate preventative and response measures are in place.
- Continue promoting and providing training on its new GIS-based interactive drinking water tool - Drinking Water Mapping Application for Protecting Source Waters (DWMAPS). DWMAPS provides the EPA, states, tribes, utilities and other members of the drinking water community with access to GIS-based information to comprehensively identify, map and evaluate threats to drinking water sources. The application enables states, utilities and others to combine national data with state datasets for their own use, such as chemical storage facilities and sensitive drinking water intakes, and to evaluate threats to drinking water. DWMAPS also provides capability to analyze and coordinate water quality assessment, impaired waters, and point source permit data to protect drinking water sources leveraging CWA programs and provisions. As part of this effort, the EPA will continue to

³³¹ <http://water.epa.gov/infrastructure/drinkingwater/sourcewater/protection/sourcewatercollaborative.cfm>.

host training for users in how to apply this and other tools for source water assessment and protection activities (e.g., collaboration with the agricultural community, CWA programs, forming a state or local source water collaborative).

- Continue to work with states and other stakeholders to characterize current and future pressures on drinking water supplies and how to address them.
- Develop new and revised drinking water health advisories that will support state needs for information for their own standards setting processes. Where data are not available, the EPA will leverage resources from states and international bodies on chemical safety. The EPA's health advisories provide information to water quality managers on the human health effects of and methods to sample and treat water contaminants.
- Continue to address cyanotoxins from harmful algal blooms (HABs) that can potentially contaminate drinking water supplies. In FY 2015, the EPA issued drinking water health advisories for microcystin and cylindrospermopsin, two toxins produced by cyanobacteria formed in algal blooms. The EPA also is developing new analytical methods, preparing stakeholder support tools and educational materials, and seeking broad input on how to best support public water systems to respond to this issue.
- Continue efforts to integrate across programs, media and federal agencies to more effectively identify and achieve mutual CWA and SDWA goals. The agency will work with states and other stakeholders to promote actions outlined in the State-EPA Collaboration Toolkit: *Opportunities to Protect Drinking Water Sources and Advance Watershed Goals through the CWA*.³³²

Underground Injection Control (UIC)

In order to safeguard current and future underground sources of drinking water from contamination, the UIC program regulates the construction, operation, permitting, and closure of injection wells that place fluids underground for storage, disposal, enhanced recovery of oil and gas, and minerals recovery. The number of UIC wells, especially Class II oil- and gas-related wells, has risen significantly in recent years, and this trend is expected to continue. Additionally, as population growth, land use changes and changes in local climatic weather patterns exacerbate water supply challenges in many areas of the country, management of water availability has become increasingly important in providing safe and reliable drinking water to communities.

In FY 2017, the EPA will continue to provide technical support to states and tribes in making sound permitting decisions, provide oversight related to implementation of underground injection regulations, and directly implement the UIC regulations where the EPA has primary authority. Activities include:

- Encouraging states to apply best practices contained in the EPA's guidance for hydraulic fracturing activities released on February 12, 2014, and for states to participate in agency-wide activities to improve safety of unconventional oil and natural gas operations.³³³ This supports the agency's priorities of safeguarding public health and environmental justice,

³³²<http://www.asdwa.org/document/docWindow.cfm?fuseaction=document.viewDocument&documentid=3007&documentFormatId=3779>.

³³³<http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/upload/epa816r14001.pdf>.

while recognizing the important role that energy extraction, including natural gas development plays in our energy future;

- Overseeing authorized state and Tribal agencies in their efforts to effectively manage Class II enhanced oil and gas recovery wells and oil and gas-related disposal wells in a rapidly growing energy sector to prevent endangerment of underground sources of drinking water;
- Working towards transferring primary enforcement authority for Class II and Class VI Geologic Sequestration wells from the EPA direct implementation to state programs that apply for primacy;
- Supporting protection of both water quality and supply by providing policy input and technical support to facilitate aquifer storage and recovery and promoting consideration of groundwater as part of stormwater management and water reuse;
- Managing aquifer exemptions related to uranium solution mining, other mineral extraction, and oil and gas activities by promoting implementation of a nationally consistent and predictable approach to reviewing and approving aquifer exemption requests, providing training and policy clarification to states, addressing legal actions and continuing development of a national aquifer exemption data set;
- Promoting voluntary strategies for improving compliance with Class II regulations, including risks from induced seismic events from disposal wells;
- Using the national UIC database and data collected from SF 7520s (permit applications) to assist with program oversight of UIC Direct Implementation programs; and,
- Continuing to implement the Class VI Geologic Sequestration (GS) Rule by:
 - 1) Reviewing and processing (by rulemaking) Class VI primacy applications from states and tribes;
 - 2) Directly implementing the regulation, where states have not yet obtained primacy by working directly with permit applicants, and,
 - 3) Providing technical assistance to states to analyze complex modeling, monitoring, siting, and financial assurance data for new GS projects and for determining if enhanced oil/gas wells storing carbon dioxide need to be transitioned from Class II to Class VI permits.

Performance Targets:

Measure	(E) Percent of the population in Indian Country served by community water systems that receive drinking water that meets all applicable health-based drinking water standards.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	87	87	87	87	87	87	87	87	Population
Actual	87.2	81.2	84	77	89	88			

Measure	(aa) Percent of population served by CWSs that will receive drinking water that meets all applicable health-based drinking water standards through approaches including effective treatment and source water protection.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	90	91	91	92	92	92	92	92	Population
Actual	92	93.2	94.7	92	93	91			

Measure	(aph) Percent of community water systems that have undergone a sanitary survey within the past three years (five years for outstanding performance or those ground water systems approved by the primacy agency to provide 4-log treatment of viruses).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	95	95	95	95	83	79	79	85	CWSs
Actual	87	92	89	93	87	90.8			

Measure	(apm) Percent of community water systems that meets all applicable health-based standards through approaches including effective treatment and source water protection.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	90	90	90	90	90	90	90	90	Systems
Actual	89.6	90.7	91	91	91	90			

Measure	(dw2) Percent of person months during which community water systems provide drinking water that meets all applicable health-based standards.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	95	95	95	95	95	95	95	95	Person Months
Actual	97.3	97.4	97.8	96.9	97	96			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$1,400.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$315.0) This reflects the realignment of the Center for Environmental Finance to the Drinking Water and Surface Water Protection Programs from the Office of the Chief Financial Officer.
- (+\$1,333.0) This program change reflects an increase of resources to fund the Water Infrastructure and Resiliency Finance Center to help communities across the country improve their wastewater, drinking water, and stormwater systems, particularly through innovative financing.
- (+\$9,089.0) This program change reflects an increase in funds to complement the EPA's state revolving fund infrastructure investments and promote economic growth through innovative financing, techniques such as system partnerships, capacity building, full cost pricing, and public and private collaboration. The EPA will:
 - Invest \$4 million to promote small system partnerships through dissemination of best practices, training, and technical assistance to help small systems plan and facilitate regionalization or consolidation agreements in order to improve the delivery of safe water, reduce operational costs, and increase rate bases.
 - Invest \$4 million to expand upon EPA's existing technical, managerial, and financial capacity programs and develop a framework to promote system-wide planning that reflects climate resiliency, asset management, energy management, and water loss control;

- Invest approximately \$1.1 million to provide technical assistance and training to states and drinking water systems on effective pricing structures that cover a system's full capital and operations and maintenance costs also while encouraging water efficiency.

These investments are designed to enhance system capacity to reliably provide safe drinking water and ultimately increase the efficiency and effectiveness of available drinking water infrastructure funding.

Statutory Authority:

Safe Drinking Water Act (SDWA); Clean Water Act.

Program Area: Water Quality Protection

Marine Pollution

Program Area: Water Quality Protection

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$10,363.5</i>	<i>\$10,161.0</i>	<i>\$10,313.0</i>	<i>\$152.0</i>
Total Budget Authority / Obligations	\$10,363.5	\$10,161.0	\$10,313.0	\$152.0
Total Workyears	39.2	37.4	37.4	0.0

Program Project Description:

Ocean and coastal waters are environmentally and economically valuable to the nation. Healthy ocean and coastal waters support fishing, recreation, tourism, and industry. The EPA works to integrate its management of the oceans and coasts across federal agencies and with state, Tribal, and local governments.³³⁴ The goals of the EPA's Marine Pollution Program are to: 1) ensure marine ecosystem protection by controlling and preventing pollutants from land-based sources and vessels; 2) manage ocean dumping of dredged material and limit and prevent disposal of wastes and other materials in the ocean; 3) develop strategies and programs to address emerging environmental threats to the marine and coastal water quality such as ocean acidification and aquatic trash and debris; 4) develop strategies to protect sensitive marine habitats such as coral reefs; and 5) gather data and undertake research to inform policy and program decisions for protection of the marine and near coastal environment.

FY 2017 Activities and Performance Plan:

Addressing Pollution from Vessels, Marinas, and Ports

- Develop regulations for the joint the EPA and Department of Defense Uniform National Discharge Standards (UNDS) rulemaking to control operational discharges from vessels of the Armed Forces;
- Develop strategies and implement projects to:
 - address vessel-related impacts from sewage discharge, invasive species, ballast water, and pollution from shipping;
 - address water impacts from ports;
 - promote best practices for recreational boaters and marina facilities through regulatory and/or non-regulatory means;
- Participate on the U.S. delegation to the Marine Environment Protection Committee of the International Maritime Organization to develop international standards and guidance under

³³⁴ See <http://water.epa.gov/type/oceb/index.cfm> for more information.

the International Convention for the Prevention of Pollution from Ships and other International Maritime Organization conventions addressing operational discharges from ships; and

- Develop communication and education tools and resources to promote best practices to prevent pollution from vessels, marinas, and ports.

Managing the Marine Protection, Research, and Sanctuaries Act (MPRSA) / Ocean Dumping Management Program (including Dredged Material)

In order to ensure U.S. ports can be reached by large sea-going vessels, several hundred million cubic yards of sediment are dredged each year from U.S. waterways, ports, and harbors. This directly impacts the U.S. economy, national security, and the environment. The EPA's ocean dumping management program regulates ocean dumping (including disposal of wastes and dredged material) to protect the environment from any material that will degrade or endanger human health, welfare, or amenities, the marine environment, ecological systems, and/or economic opportunities. Major emphasis for FY 2017 are to:

- Manage regional programs that monitor active dredged material ocean dump sites nationwide to ensure achievement of environmentally acceptable conditions, as reflected in each site's Management and Monitoring Plan. In FY 2015, 95 percent of all active dredged material ocean disposal sites achieved environmentally acceptable conditions, achieving the annual national target. The EPA scientists conduct ocean disposal site surveys using contract vessels and vessels secured and leased through Interagency Agreements with the National Oceanic and Atmospheric Administration (NOAA) and the U.S. Army Corps of Engineers (ACE); and the EPA also has acquired contractor support for the surveys and associated analysis work. The EPA will continue this approach in FY 2017;
- Evaluate ocean disposal site monitoring activities to identify potential improvements, including those related to scientific developments, for future EPA monitoring efforts;
- Evaluate ocean dumping permitting and site designation requests and supporting implementation of general and other permits issued under the MPRSA;
- Assess impacts of the disposal of wastes from seafood processing operations in the marine environment;
- Ensure that U.S. policy and procedures regarding ocean dumping are consistent with the 1972 London Convention and 1996 London Protocol. The EPA is Head of the U.S. Delegation for the annual London Convention/London Protocol Scientific Groups Meetings and Alternate Head of the U.S. Delegation for the annual London Convention/London Protocol Consultative Meeting of the Parties. At the 36th London Convention Consultative Meeting and 9th London Protocol Consultative Meeting, a U.S. official from the EPA was elected as Vice-Chair of the London Convention/London Protocol governing bodies;

- Develop, with ACE, the annual United States Ocean Dumping Report to the International Maritime Organization;
- Work with other federal agencies and the international community to provide technical guidance related to sub-seabed carbon sequestration and marine geo-engineering, and coordinate with federal partners to address any proposals for ocean fertilization or sub-seabed carbon sequestration; and
- Coordinate with ACE, U.S. Coast Guard, and other federal agencies and other EPA programs on activities related to ocean dumping, including managing dredged material and encouraging beneficial use of dredged material.

Ocean and Coastal Acidification

Recent research shows that, in addition to the contribution of atmospheric carbon dioxide to ocean and coastal acidification, local land-based anthropogenic sources of nutrients and organic carbon can significantly change the biogeochemistry of coastal waters, resulting in increased acidification. Because ocean and coastal acidification has the potential to affect key species at the base of marine food webs, it has the potential to affect fishery species of interest. Further, decreases in the rate of calcium carbonate production may alter benthic ecosystems, thereby affecting marine organisms that depend on the complex habitat provided by corals and other associated organisms.

In FY 2017, the EPA will continue participation in interagency efforts to assess and mitigate environmental impacts from ocean and coastal acidification; activities include:

- Support a “state of the science” assessment on acidification stressors and impacts in the Pacific Northwest and New England regions;
- Provide targeted data and research to fill gaps in regional understanding of stressors and impacts (e.g., pH monitoring in New England; carbon/nitrogen loadings model in the Pacific Northwest; ecosystem services valuation analysis);
- If possible, identify the best potential parameters for developing water quality criteria for ocean and coastal acidification;
- Continue coordination with NOAA and other federal partners through participation in the Interagency Ocean Acidification Working Group;
- Develop state/federal partnerships to coordinate research and monitoring activities; and
- Develop communication strategies to explain the nexus of coastal acidification, nutrient pollution, and hypoxia; communicate the economic and ecological impacts caused by acidification.

Reducing Marine Trash

Trash that is improperly disposed of – either intentionally or inadvertently – can enter fresh water and coastal ecosystems. This “aquatic trash” may eventually make its way to the ocean. Trash has become a pervasive problem in such aquatic and marine environments, presenting a challenge to water quality and habitat protection, in addition to aesthetic blight, ecological effects, economic impacts, and possible human health risks. The EPA’s Trash Free Waters (TFW) national program prompts collaborative actions to reduce and prevent land-based trash from entering our watersheds, coastal waters, and the marine environment. In FY 2017, the emphasis will be to:

- Implement regional TFW programs in California and the Pacific Islands, the Mid-Atlantic, the Gulf of Mexico, Puerto Rico and the Caribbean, New York/New Jersey and other possible locations;
- Develop, support, and implement policy decisions based on the outcome of a 2016 effort to estimate the national cost of managing aquatic trash;
- Address major research needs and assess scientific findings for purposes of making policy and program decisions regarding possible human health effects of plastic trash in the food chain and the ecosystem impacts of aquatic trash;
- Develop public/private partnerships with corporate commitments to achieve major reductions in trash entering U.S. water bodies;
- Continue to work with other members of the Interagency Marine Debris Coordinating Committee to assess, reduce, and prevent marine debris per the Marine Debris Research, Prevention, and Reduction Act of 2006;
- Work with other federal agencies and the international community to provide technical, best practices, and policy guidance related to the presence, sources, impacts, and potential efforts to prevent/reduce the amounts of plastics becoming marine litter; and
- Continue to prepare, support, and sometimes serve on the U.S. delegation for a number of international conventions and efforts, such as the G7 Foreign Affairs Sous-Sherpa Meetings and Workshops addressing Marine Litter, the Organization for Economic Cooperation and Development’s (OECD) Working Party on Resource Productivity and Waste Group, the Land Based Sources of Trash workgroup efforts implementing the Cartagena Protocol, and the London Dumping Convention. Other international efforts include working closely with the State Department as well as the Council of the Commission for Environmental Cooperation.

Coral Reef Protection

In FY 2017, emphasis will be to:

- Develop strategies and implement projects to address land-based stressors of coral reef ecosystems (e.g., analysis of the coral reef/climate nexus; communicating the impacts on corals from all stressor sources; assessing the impacts of national and regional action strategies); and
- Continue to represent the EPA on the U.S. Coral Reef Task Force.

Performance Targets:

Measure	(co5) Percent of active dredged material ocean dumping sites that will have achieved environmentally acceptable conditions (as reflected in each site's management plan).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	98	98	95	95	95	95	95	95	Sites
Actual	90.1	93	97	96	95	95			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$146.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$6.0) This program change reflects an increase in resources for ocean monitoring and assessment activities.

Statutory Authority:

Clean Water Act; Marine Protection, Research, and Sanctuaries Act (Ocean Dumping Act); Marine Debris Research, Prevention and Reduction Act of 2006; Marine Plastic Pollution Research and Control Act of 1987.

Surface Water Protection

Program Area: Water Quality Protection

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$199,425.7</i>	<i>\$200,256.0</i>	<i>\$228,213.0</i>	<i>\$27,957.0</i>
Total Budget Authority / Obligations	\$199,425.7	\$200,256.0	\$228,213.0	\$27,957.0
Total Workyears	966.5	1,023.9	1,015.7	-8.2

Program Project Description:

The Surface Water Protection Program, under the Clean Water Act (CWA), directly supports efforts to protect, improve, and restore the quality of our nation's rivers, lakes, and streams. The EPA works with states and tribes to make continued progress toward the clean water goals identified in the agency's Strategic Plan by implementing core clean water programs, including accelerating innovations that implement programs on a watershed basis. It also supports enforcement case development as appropriate.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will focus its work with states, interstate agencies, tribes and others in key areas of the National Water Program. The main components and projected funding levels are: water quality technology standards (\$46.2 million); National Pollutant Discharge Elimination System (NPDES) (\$48.6 million); water monitoring (\$25.9 million); Total Maximum Daily Loads (TMDLs) (\$26.2 million); watershed and nonpoint source management (\$29.3 million); sustainable infrastructure management (\$33.9 million); water infrastructure grants management (\$11.8 million); and Clean Water Act Section 106 program management (\$6.3 million).

Communities

The FY 2017 budget continues the agencywide focus in communities. The EPA works each and every day - hand-in-hand with other federal agencies, states, tribes and local communities - to improve the health of American families and protect the environment one community at a time, all across the country. The agency must expand the work it does to enhance the livability and economic vitality of neighborhoods; strengthen the relationship with America's agricultural community; support green infrastructure to manage urban waters; and take into consideration the impacts of decisions on environmental justice communities through increased analysis, better science, and enhanced community engagement to ensure the protection of basic fundamental rights. The continued investment in community activities focuses resources and programs to better support the efforts of environmentally overburdened, underserved, and economically distressed communities. These efforts will proactively address endemic and emerging environmental challenges in ways that build a community's long-term sustainability.

In FY 2017, the EPA also will provide resources for Advanced Monitoring to assist communities to reduce environmental impacts. Many communities are seeking to improve their awareness of water quality condition and enhance their understanding of how they can better protect their waters. The EPA will make monitoring equipment available with particular emphasis on monitoring indicators related to harmful algal blooms. Interactive web tools will describe water quality monitoring data using clear, understandable indicators.

Water Quality Criteria and Standards

Water quality criteria and standards provide the scientific and regulatory foundation for water quality protection programs under the Clean Water Act. The criteria define which waters are clean and which waters are impaired, and thereby serve as benchmarks for decisions about allowable pollutant loadings into waterways.³³⁵

In FY 2017, the EPA will continue to support state and Tribal programs by providing scientific water quality criteria information, which will include conducting scientific studies and developing or improving recommended criteria for nutrients, pathogens, and chemical pollutants in ambient water. The EPA will continue to work with state and Tribal partners to help them develop standards that are “approvable” under the Clean Water Act, including providing advance guidance and technical assistance, where appropriate, before the standards are formally submitted to the EPA.

Excessive nutrients continue to be one of the leading causes for impaired waters. A key element to making progress in reducing nutrient pollution is the development of numeric nutrient criteria. However, many states and tribes lack the technical and financial resources to develop them. The EPA will continue its efforts to work with states and tribes to accelerate adoption of numeric nutrient criteria into their state water quality standards.

The EPA will focus on the following key strategic areas:

- Support states and authorized tribes in adopting and implementing new and revised water quality standards in accordance with the Water Quality Standards regulation at 40 CFR part 131. The EPA revised several parts of this regulation to provide a better-defined pathway for states and authorized tribes to improve water quality, protect high quality waters, increase transparency and enhance opportunities for meaningful public engagement at the state, tribal and local levels (80 FR 51019, August 21, 2015).³³⁶
- The EPA will work with states and tribes to ensure that, where a new or revised requirement in the regulation necessitates a change to state or Tribal standards, such revisions will occur within the next triennial review that the state or tribe initiates after September 2015.
- Provide technical advice and assistance to states and authorized tribes in updating their water quality criteria to reflect the latest scientific information, including adoption of revised criteria to protect recreational uses and adoption of ambient water quality criteria for the protection of human health and aquatic life.

³³⁵ For more information, visit <http://www.epa.gov/waterscience/>.

³³⁶ For more information, visit http://water.epa.gov/lawsregs/lawsguidance/wqs_index.cfm.

- Explore development of human health ambient water quality criteria for viruses commonly believed to be responsible for gastrointestinal illness in contaminated water designated for recreational uses. This includes scoping and problem formulation for development of criteria for a viral indicator and working with the EPA's Research and Development Program to modify biomolecular methods to function in surface water for pathogenic viruses developed for drinking water as part of the Unregulated Contaminant Monitoring Rule.
- Ensure methodologies for developing Ambient Water Quality Criteria for aquatic life are based on state-of-the-art science.

National Pollutant Discharge Elimination System and Effluent Guidelines

In FY 2017, the EPA will continue to implement and support the core water quality programs that control point source discharges. The NPDES program requires point source dischargers to be permitted and requires pretreatment programs to control discharges from industrial and other facilities to the nation's wastewater treatment plants. The EPA works with states to structure the permit program to better support comprehensive protection of water quality on a watershed basis and also support the recent increases in the scope of the program arising from court orders and environmental issues. For the ninth consecutive year, the EPA and states achieved the national goal of having current NPDES permits in place for 85 percent of non-Tribal facilities (FY 2015 result: 87 percent).

The number of entities required to obtain NPDES permits has increased three-fold over the past 16 years, from 372,000 in 1999 to over 800,000 regulated entities in 2015. As a result, the EPA and the states have experienced increasing demands to provide analytical and outreach services to the regulated community and other interested stakeholders.

The EPA's key strategic objectives for the NPDES programs include a diverse array of program initiatives, including:

- Ongoing efforts to work with states and regional offices to ensure the integrity of the NPDES program in the 46 states and the U.S. Virgin Islands that are authorized to issue NPDES permits. The EPA will continue to improve management systems and look for program efficiencies to ensure the optimal balance of flexibility and national consistency. In addition, the EPA will continue ongoing efforts to ensure that program assessments are publicly available and result in meaningful program improvements.
- Outreach, training and technical assistance to states and permittees in development of water quality-based permit limits for nutrient pollution, which is one of the largest remaining causes of water body impairment nationwide.
- Outreach, training and technical assistance in implementation of the national technology-based standards for discharges from Steam Electric power plants and related cooling water intake structures, and support for states in developing site-specific permit conditions for such facilities' wastestreams, such as those from flue gas desulfurization.

- Active engagement with communities and states to implement the EPA's Integrated Municipal Stormwater and Wastewater Planning Approach by providing timely technical assistance on permitting issues;
- Assistance to states to address permitting issues arising from unconventional oil and gas extraction that is consistent with state water quality standards and Clean Water Act technology requirements, and development of effluent guidelines to address such discharges on a consistent, national basis.
- Efforts to control pollutant discharges from Concentrated Animal Feeding Operations (CAFOs). The EPA will continue to work with states and tribes to implement fully its NPDES CAFO rule to ensure that all CAFOs that discharge pollutants obtain NPDES permit coverage.
- Collaborative efforts to increase water quality protection from livestock operations using non-regulatory techniques, such as conducting industry partnership demonstration projects and partnering with other federal agencies and stakeholders to hold workshops on best conservation practices to educate farmers on most effective best management practices.
- Enhanced implementation of the permitting process to strengthen the stormwater program. Stormwater is a main contributor of nutrients and sediments, which are two of the top three pollutants impairing waters in the United States.
- Actions to promote the use of green infrastructure to improve and protect urban waters and to make communities more resilient. The EPA is strengthening its partnership with other federal agencies to direct greater focus and funding for green infrastructure, providing technical assistance to communities, and developing tools that communities can use to evaluate green infrastructure.
- Ongoing efforts to work with states and permittees to resolve issues related to overflows in separate sanitary sewer systems and bypasses at the treatment plant to ensure that water quality is protected during wet weather events.
- Implementing the Vessel General Permit (VGP) issued in 2013. The permit reduces the risk of invasive species introduction and reduces the discharge of pollutants from vessels. The EPA also will be conducting outreach to the domestic and international shipping communities, developing tools and training, evaluating the efficacy of those permits, managing and analyzing data from tens of thousands of these vessels, and beginning to identify and research effluent limits and other requirements to be explored to improve or streamline the next VGP.
- Accelerating e-reporting as part of an agencywide effort to make regulations easier to implement. Resources have been directed to: (1) accelerate implementation of e-reporting in order to reap the benefits of reduced burden for data entry and error resolution, (2) reduce effort in responding to public requests for data, (3) promote consistent requirements for

electronic reporting across all states, and (4) create more timely access to NPDES program data in an electronic format for the EPA, states, regulated entities, and the public.

- Incorporating and strengthening elements of the NPDES program to acknowledge and address relevant climate resiliency needs of permitted entities and improve permit writer tools associated with changes in temperature, precipitation, stream flows, and other factors.

Monitoring and Assessment

In FY 2017, the EPA will continue working with the states and tribes to implement the Monitoring Initiative, which includes enhancements to state and interstate monitoring programs consistent with their individual monitoring strategies and collaboration on statistically-valid surveys of the nation's waters. Through the Monitoring and Assessment Partnership, the EPA will work with states to develop and apply innovative and efficient monitoring tools and techniques to optimize availability of high-quality data to support Clean Water Act program needs, to expand the use of monitoring data and geo-spatial tools for water resource protection, and to set priorities and evaluate effectiveness of water protection. This will allow the EPA, states, and tribes to continue to report on the condition of the nation's waters, and make significant progress toward assessing trends in water condition in a scientifically-defensible manner.

As part of the national surveys, the EPA, states, and tribes will collaborate to conduct field sampling for the National Lakes Assessment 2017. In FY 2017, the EPA and states will finalize the National Rivers and Streams Assessment 2013/2014. The EPA and states will complete data analysis for incorporation into the National Coastal Condition Assessment Report 2015. The EPA and states will initiate data analysis for the National Wetlands Condition Assessment 2016. Additionally, in FY 2017, the EPA/State Steering Committee for the National Rivers and Streams Assessment will be planning the third national survey for rivers and streams which will be in the field in calendar year 2018.

The EPA will work closely with states and tribes as they continue to enhance their monitoring programs. The EPA stresses: the importance of using statistical surveys to generate cost effective statewide water quality assessments; targeted monitoring approaches to develop and evaluate local protection and restoration activities; transmission of water quality data to the national storage and retrieval warehouse using the Water Quality Exchange protocol; development of automated data analysis tools to streamline water quality assessments; and electronic reporting of assessment decisions using the new Assessment and TMDL tracking system described in the Accountability section below. The Water Quality Exchange allows states, tribes, and other organizations to submit water quality data and share the data over the Internet. The EPA will assist tribes in developing and implementing monitoring strategies appropriate to their water quality programs, support tribes to provide data in a format accessible for storage in the EPA data systems, and encourage tribes to use water quality data to protect and restore waters in Indian Country.

Total Maximum Daily Loads

Development and implementation of TMDLs for CWA 303(d) listed impaired waterbodies is a critical tool for meeting water quality restoration goals. TMDLs focus on clearly defined

environmental goals and establish a pollutant budget, which is then implemented via permit requirements and through local, state, and federal watershed plans and programs. In FY 2017, the TMDL Program will continue to engage with states to implement the 10-year vision for the CWA 303(d) listing (of impaired waters) program.³³⁷ As part of this effort, the EPA will encourage states to: continue to engage with the public and stakeholders on their priorities, and identify opportunities to integrate CWA 303(d) Program priorities with other water quality programs (e.g., state water quality standards (WQS), monitoring, CWA 319, NPDES, source water protection, and conservation programs) to achieve overall water quality goals and complete TMDLs and other restoration plans to address impaired segments. The EPA will work with states and other partners to develop and implement activities and watershed plans to restore these waters. Additionally, the EPA will work with states and other partners to improve our ability to identify and protect healthy waters/watersheds, and will integrate protection priorities with those identified under the CWA 303(d) program. Cumulatively, states and the EPA have made significant progress in the development and approval of Total Maximum Daily Loads and have completed more than seventy-two thousand TMDLs through FY 2015. Also, the EPA will continue to work with states to implement a new measure that looks more comprehensively at the 303(d) program by measuring the extent of state priorities addressed by TMDLs, alternative restoration, or protection approaches.

In FY 2017, the EPA plans to propose rulemaking to provide more opportunities for tribes to fully engage in the 303(d) Program. Section 518 of the CWA provides that eligible tribes may seek treatment in a similar manner as states (TAS) for CWA Section 303; however existing regulations do not explicitly address how tribes obtain TAS for the 303(d) program. In this rulemaking, the EPA would propose a process for tribes to apply to the EPA for TAS authority to establish lists of impaired waters and TMDLs pursuant to section 303(d) of the CWA.

Accountability in Water Quality Protection and Restoration

Most impaired waters take years to recover fully, and incremental improvements are currently not readily visible. In FY 2017, the EPA will continue to support a new approach for measuring local improvements in water quality, resulting in a more transparent and efficient measure of progress and better allowing cross-program integration. This new approach will use the National Hydrography Dataset Plus (NHDPlus) to calculate watershed area to describe previously impaired waters where plans are in place, actions are being implemented, and waters are now attaining water quality standards. In FY 2017, the EPA will continue to work with states to transition to the new approach developed in partnership with states to allow more efficient reporting under CWA Sections 303(d) and 305(b).

This tiered, evidence-based approach to tracking environmental outcomes integrates data from the national, state and local scales and enables the EPA to transition from tracking program outputs to tracking environmental outcomes as strategic measures to show the effectiveness of the nation's investments in water quality. This approach will provide greater accountability and transparency while supporting more flexibility in how the EPA and states achieve the CWA goal to restore and maintain the chemical, physical and biological integrity of the nation's waters.

³³⁷ For more information see: <http://www.epa.gov/tmdl/new-vision-cwa-303d-program-updated-framework-implementing-cwa-303d-program>.

In FY 2016, the EPA completed the redesign of the system to improve the process that states use for submitting Integrated Reporting information to support this new approach. In FY 2017, states will begin to transition to the new system in preparation for the 2018 Integrated Reporting cycle. The EPA also will assist states in the following areas:

- Developing or implementing tools (e.g., the Recovery Potential Screening Tool) to identify priorities in support of the 303(d) Program 10-year vision and this new approach;
- Developing GIS data for assessed and impaired waters;
- Developing assessment methods and tracking abilities for healthy/unimpaired waters;
- Developing data management capabilities to track and report water quality assessments;
- Developing methods to automate the screening of monitoring data against water quality criteria;
- Developing approaches to integrate state-scale statistical surveys with local-scale assessments; and
- Integrating water quality data across the various water quality programs.

This assistance will be coordinated through the EPA regional offices to identify state needs and to align those resources in support of this improved approach for accountability.

Nonpoint Source Management

Nonpoint Source pollution, generated by runoff that carries excess nutrients, pesticides, pathogens, toxics and other contaminants to waterbodies, is the greatest remaining source of surface water quality impairments and threats in the United States. Nonpoint source management is integral to addressing most of the remaining water quality problems and threats in the United States. Protection and restoration of water quality on a watershed basis requires a careful assessment of the nature and sources of pollution, the location and setting within the watershed, the relative influence on water quality, and the amenability to preventive or control methods. In FY 2017, the EPA will support efforts of states, tribes, other federal agencies, and local communities to develop and implement watershed-based plans that successfully address all of these factors to restore waters through the national Nonpoint Source Program (Section 319) while also devoting effort to protecting those waters that are healthy.

In FY 2017, the EPA will continue to provide nonpoint source program leadership and technical support to states, municipalities, watershed organizations, and concerned citizens by:

- Continuing coordination with the U.S. Department of Agriculture (USDA) to focus federal resources on agricultural sources of pollution in select watersheds in every state. Also, the EPA will continue to take advantage of opportunities to work with the U.S. Forest Service, Bureau of Land Management, and other federal agencies with land management responsibilities to address water quality impairments;
- Creating, supporting, and promoting technical tools that states and tribes need to accurately assess water quality problems, set priorities, and analyze and implement solutions;

- Assuring accountability for results through (1) use of the EPA’s nonpoint source program grants tracking system, which will continue to track the nationwide pollutant load reductions achieved for phosphorus, nitrogen, and sediment; and (2) tracking the remediation of waterbodies that had been primarily impaired by nonpoint sources and that were subsequently restored so that they may be removed from the Section 303(d) list of impaired waters;³³⁸
- Continuing to work closely with a broad set of partners to promote the implementation of low-impact development practices; and focusing on the development and dissemination of new tools to promote Low-Impact Development (LID), thereby preventing new nonpoint sources of pollution.³³⁹ LID can be used as part of an integrated Smart Growth strategy to reduce stormwater runoff;
- Implementing the Healthy Watersheds Strategy,³⁴⁰ in cooperation with states, academia and non-governmental organizations, which focuses on protecting the watersheds of healthy waters, as well as healthy components of other watersheds. Through technical support, tools, and a Healthy Watersheds grant program launched in FY 2016, the EPA will continue to provide assistance to states, tribes, and nonprofit organizations interested in conducting healthy watershed assessments, planning, and implementation; and communicating the importance of protecting healthy waters; and
- Targeting efforts within critical watersheds to implement effective strategies that can yield significant progress in addressing nonpoint source nutrient pollution. Specifically, the EPA will continue to support state efforts to design and implement nutrient reduction strategies and to design watershed plans; promote sustainable agricultural practices; collaborate to leverage and focus the most effective nutrient and sediment reduction practices; work to leverage resources of federal and state partners to address development and wetland restoration; and support critical monitoring needs to inform decision-making.

The EPA had a FY 2014-2015 agency priority goal that tracked the revision of state Nonpoint Source Management Program Plans reflecting the important role the plans have in driving programs. All of the states and Washington, DC, met the EPA’s agency priority goal for updated Nonpoint Source Management Programs by the deadline of September 30, 2015³⁴¹. The update of state Nonpoint Source Management Programs is important for the setting of state priorities and strategic targeting of Section 319 funds towards the most pressing nonpoint source problems. An up-to-date state Nonpoint Source Management Program is the roadmap that drives strategic implementation activities to control and prevent pollution for a state’s entire Nonpoint Source Program.

In FY 2017, the program will continue to work with states to strengthen and enhance their nonpoint source programs with a continued focus on watershed project implementation and maintaining

³³⁸ For more information, visit www.epa.gov/nps/success.

³³⁹ For more information, visit www.epa.gov/owow/nps/lid/lidlit.html.

³⁴⁰ For more information, visit: <http://water.epa.gov/polwaste/nps/watershed/index.cfm>.

³⁴¹ For more information, visit: <http://www.performance.gov/content/improve-restore-and-maintain-water-quality-enhancing-nonpoint-source-program-leveraging?view=public#overview>.

current Nonpoint Source Management Program priorities funded through Section 319. The EPA also will work to better document progress through enhanced program measures and a new Section 319 program highlights report. The Nonpoint Source program will work closely with the 303(d) program to encourage coordination and integration of state 303(d) vision priorities and nonpoint source program priorities and implementation.

Sustainable Infrastructure

The EPA will continue to implement its Sustainable Infrastructure Strategy and work with its partners to facilitate the voluntary adoption of effective management practices by water sector utilities. The agency will work with other key partners, such as local officials and academia, to help increase public understanding and support for sustaining the nation's water infrastructure. In FY 2017 and beyond, the EPA, along with its partners, will continue to recognize and enhance efforts to more effectively manage water and wastewater utilities, especially in small and disadvantaged communities, through promotion of best practices for sustainability, effective utility management workshops, and improved access to information.

The WaterSense program is a key component of the agency's efforts to ensure long-term sustainable water infrastructure, contribute to GHG reductions, and help communities adapt to drought and climate change. WaterSense provides consumers with a reference tool to identify and select water-efficient products to help reduce water demand and wastewater flows. Through December 2015, the agency had issued voluntary specifications for three water-efficient service categories (certification programs for irrigation system auditors, designers, and installation and maintenance professionals) and seven product categories (residential toilets, bathroom faucets and accessories, showerheads, flushing urinals, flushometer-valve commercial toilets, pre-rinse spray valves, and weather-based irrigation controllers). The program also has a new homes specification designed to save water indoors as well as outdoors for new single family and multi-family homes. Product specifications include water efficiency as well as performance criteria to ensure that products not only save water but also work as well as standard products in the marketplace. Products may only bear the WaterSense label after being independently certified to ensure that they meet WaterSense specifications.

In a short timeframe, WaterSense has become a national symbol for water efficiency among utilities, plumbing manufacturers, and consumers. Awareness of the WaterSense label is growing every day. As of December, 2015, more than 2,450 different models of high-efficiency toilets, 9,300 faucet models and accessories, 365 models of flushing urinals, 3,700 models of showerheads, 25 models of pre-rinse spray valves, and 200 models of weather-based irrigation controllers had earned the WaterSense label. More than 645 homes also have earned the WaterSense label. Cumulative savings in the program due to products shipped through the end of 2014 (the most recent year for which there is data) exceeds 1 trillion gallons, enough water to supply all the homes in the United States for 42 days – and \$21.7 billion in water, sewer, and energy bill savings. The energy savings associated with reducing the need to move, treat, and heat that water is equivalent to 54 MMTCO₂E of greenhouse gas reductions.³⁴²

³⁴²Watersense Accomplishment Report (updated annually)
http://www3.epa.gov/watersense/docs/ws_accomplishments_2014_508.pdf

WaterSense has more than 1,735 partners which include manufacturers, retailers, builders, utilities, state/local governments, and community organizations that help to educate consumers on the benefits of switching to water-efficient products. In FY 2017, the program will work with its partners to carry out a number of consumer campaigns that encourage consumers to switch to WaterSense labeled products and practice other water efficient behaviors. WaterSense also is working within the federal government to ensure that it leads by example through the use of water-efficient products and practices.

The agency released a final specification for commercial flushometer valve toilets in December, 2015. In FY 2017, the agency will complete work to develop specifications for soil moisture-based irrigation controllers and landscape irrigation sprinklers building on research initiated in FY 2014. The program also will research other residential and commercial product and service categories to inform future specifications. The program has worked to support efforts to promote best management practices developed to support commercial and institutional facilities. In 2014 and 2015, the program carried out a focused program targeting the hospitality sector. In FY 2017, the WaterSense program will continue to extend support to additional sectors by working with the ENERGY STAR program to reach ENERGY STAR program partners.

Wastewater System Capabilities

Aging systems and the increasing impacts of climate change create opportunities for innovation and new approaches for drinking water and wastewater infrastructure. In addition to the funding level of \$2 billion requested through the Clean Water and Drinking Water State Revolving Funds, over \$22 million is included through Drinking Water Programs and Surface Water Protection for technical assistance, training, and other efforts to enhance the capacity of communities and states to plan and finance drinking water and wastewater infrastructure improvements. The EPA will work with states and communities to promote innovative practices that advance water system and community resiliency and sustainability. The SRFs also are complemented by a \$20 million request for the new Water Infrastructure Finance and Innovation Act (WIFIA) program, through which the EPA will make direct loans to regionally or nationally significant water infrastructure projects.

These resources build on the successful Clean Water State Revolving Fund program, and advance the work undertaken in FY 2016 to further integrate planning and technical assistance, as well as launch the WIFIA program and the Water Infrastructure and Resiliency Finance Center. This program aims to make wastewater infrastructure more resilient and better able to protect and improve public health, the natural environment, and economic vitality. One focus is on fostering an integrated planning process, which has the potential to identify a prioritized critical path to achieving the water quality objectives of the CWA by identifying efficiencies in implementing competing requirements that arise from separate wastewater and stormwater projects, including capital investments and operation and maintenance requirements. This approach also can lead to more sustainable and comprehensive solutions, such as green infrastructure, that improve water quality. The integrated planning approach is not about lowering existing regulatory or permitting standards or delaying necessary improvements. Rather, it is intended to be an option provided to help municipalities meet their CWA obligations by optimizing the benefits of their infrastructure improvement investments through the appropriate sequencing of work. Also within this \$22 million, \$7.1 million is for the Water Infrastructure and Resiliency Finance Center and Center for

Environmental Finance, which will help communities across the country improve their wastewater and stormwater systems, particularly through innovative financing and by building resiliency to climate change.

The FY 2017 budget also continues to provide funding for the Environmental Finance program. This program manages the Environmental Financial Advisory Board and provides grants to a network of university-based Environmental Finance Centers which deliver financial outreach services, such as technical assistance, training, expert advice, finance education, and full cost pricing analysis to states, local communities and small businesses.

The EPA plans on assisting communities in developing integrated plans through a combination of direct technical assistance and competitive awards. The EPA will develop and disseminate tools and conduct training to promote improved planning and enhance capacity to address asset management and finance alternatives, energy management, water efficiency and climate resiliency. The EPA will continue to expand efforts to promote effective utility management for small systems in coordination with other agencies and to promote improved energy efficiency and management at all wastewater treatment works. The EPA will conduct case studies of innovative financing approaches and barriers to water and energy efficiency, water reuse and green infrastructure investments.

Policy and oversight of the Clean Water State Revolving Funds, which provide low-interest loans to help finance wastewater treatment facilities and other water quality projects, also are supported by this program. In managing the Clean Water State Revolving Funds, the EPA continues to work with states to meet several key objectives:

- Fund projects designed as part of an integrated watershed approach to sustain communities, encourage and support green infrastructure, and preserve and create jobs;
- Link projects to environmental results through the use of water quality and public health data;
- Maintain the excellent financial condition of the funds;
- Work with states to target SRF assistance to small and underserved communities with limited ability to repay loans; and
- Implement the Water Resources Reform and Development Act (WRRDA) amendments to the CWSRF.

The agency also will provide management and oversight of grant programs, such as the Section 106 grants, the Mexico Border program, and the Alaska Native Villages program.

Healthy Communities

The EPA's request includes enhanced support for green infrastructure activities and efforts directed toward Municipal Separate Storm Sewer Systems (MS4s) to further sustainability goals and to

make a visible difference at the local level by protecting water resources and increasing community resiliency. Green Infrastructure is a cost-effective and resilient approach to our stormwater infrastructure needs that provides many community benefits: improving water and air quality; reducing energy use and mitigating climate change; improving habitat for wildlife; and reducing a community's infrastructure cost and promoting economic growth.³⁴³ Incorporating green infrastructure and enhancing stormwater management helps to create livable urban communities and improve the quality of urban waters.

Efforts directed toward MS4s, particularly newly regulated MS4s, will support clean water goals of protecting the Nation's waterbodies from the harmful effects of stormwater discharges. In FY 2017, the EPA will continue to strengthen the MS4 program in communities across the country, by directing resources toward a full range of stormwater management issues.

In 2017, the EPA will assist and support communities in a numbers of areas, including:

Green Infrastructure

- Continue technical assistance to help communities more easily implement green infrastructure programs that can improve water quality and increase resiliency to the effects of climate change and disseminate information about successful approaches for adopting green programs;
- Provide outreach and resources on the benefits of using green infrastructure including cost savings, improved environmental outcomes, and community enhancements; and
- Collaborate with federal and community partners to leverage complementary efforts to lower the barriers to local green infrastructure use and increase the rate of adoption.

Municipal Separate Storm Sewer Systems

- Provide technical assistance to help MS4s evaluate and change their codes and ordinances, develop pollution prevention and illicit discharge detection programs, and develop programs to oversee active and post construction discharges. Funds will be used to assist newly regulated MS4s in developing their stormwater programs;
- Develop training and foster mentoring relationships between the new MS4s and nearby seasoned MS4s that could provide guidance and advice. The funds will assist new MS4s to develop proactive programs to prevent water quality impairment and result in the issuance of better permits; and
- Develop and implement plans to strengthen MS4 permits as they are renewed, and provide support to states on permit development including developing permit provisions, fact sheets, and response to comments.

³⁴³ http://water.epa.gov/infrastructure/greeninfrastructure/gi_why.cfm#Community.

To support these efforts, the agency has established an FY 2016-2017 Agency Priority Goal to advance resilience in the nation's water infrastructure, while protecting public health and the environment, particularly in high-risk and vulnerable communities. By September 30, 2017, the EPA will provide technical assistance and other tools to 25 urban communities to advance green infrastructure planning and implementation efforts to increase local climate resilience and water quality protections in stormwater infrastructure. The EPA also will provide tools and training for 1,000 operators of small water utilities to improve resilience in drinking water, wastewater, and stormwater systems. Trainings will be targeted based on regional vulnerabilities, such as drought and flooding.

An example of the work conducted in many communities across the country is Norfolk, Virginia. Like many communities along the Chesapeake Bay shoreline, Norfolk faces a significant challenge in addressing stormwater pollutant contributions to the Bay from existing urban areas. In the extensive residential neighborhoods that border the City's shores, stormwater runoff often discharges directly into the Bay system without treatment. During FY 2015, the EPA provided concept designs that helped identify green infrastructure alternatives for a low-lying coastal area subject to sea-level rise in Norfolk. The Norfolk project is expected to provide community quality of life improvements, including attracting business and residential development within the watershed through benefits which are ancillary to water quality improvements such as improved walkability, improved aesthetics, and pedestrian safety. These designs will serve as an example of how standard green infrastructure practice criteria can be adapted to the shoreline environment and improve community resiliency.

Urban Waters

In FY 2017, the agency will continue to assist communities, particularly underserved communities, to support local efforts to restore and protect the quality of their urban waters. The EPA will implement the Urban Waters program and will continue to co-lead the Urban Waters Federal Partnership.

Many urban waters are impaired by pathogens, excess nutrients, and contaminated sediments that result from sanitary sewer and combined sewer overflows, polluted runoff from urban landscapes, and legacy contamination. Such impairments impact public and aquatic health and impact local economic growth. The EPA will assist communities, particularly underserved communities, in restoring and revitalizing urban waterways and the surrounding land through partnerships with governmental, business, and community organizations and other local partners. In FY 2017, the EPA will support place-based work by:

- Providing small grants and targeted technical assistance to support innovative community-driven solutions that accelerate measurable improvements in water quality. Resources will go to projects that advance program priorities, which may include community greening and green infrastructure, community-driven water quality monitoring and data collection, and community planning and visioning; and
- Continuing to provide technical assistance and networking support through the EPA's Urban Waters Learning Network, a network of urban waters practitioners across the

country. This peer-to-peer network is designed to increase sustainability of local efforts by providing support such as: one-on-one technical support, webinars on topics identified by Network members and providing a venue for training and resources announcements. Resources developed through this network will be made available nationally, thus effectively upscaling the EPA's activities with communities and leveraging the program's place-based efforts for greater national impact.

The EPA will continue to co-lead the Urban Water Federal Partnership to advance urban water goals at the 19 partnership locations. At these locations, urban waters partnerships implement policy actions and on-the-ground projects that integrate federal support with local stakeholder actions. Each of these local partnerships works to remove barriers to achieving local workplans consistent with national action principles and existing authorities. The partnership will continue to align and leverage federal resources from the EPA, DOI, USDA and other partners to meet local needs more effectively and to advance shared multi-agency priorities. For example, the partnership will help address storm water management and promote green infrastructure to improve water quality through identification and transfer of best practices and successful local approaches. The Partnership will continue to identify and champion innovative approaches to making the delivery of Federal resources to communities more effective and integrated. To that end, the EPA and other Partnership members will continue to develop and support many local partners by providing the following resources:

- The EPA will continue to support the Five-Star Urban Waters Grant Restoration Program, a public-private partnership that leverages private funding for local water quality projects. This fund is directly responsive to a long-standing need at the local level for a funding source that integrates support for both design and implementation of important local projects. This integration is made possible through the combination of federal and private sector funding;
- The EPA will work with the Partnership to support an Urban Waters Ambassador in each of its 19 designated Partnership locations. These individuals coordinate with local partners and leverage resources for on-the-ground results. They play a critical role in technical assistance transfer across communities. Ambassadors develop and disseminate models for inter-agency coordination on key issues such as green infrastructure implementation and funding; and
- The EPA will continue to support development of the Urban Waters mapping tool. This tool helps local communities to identify existing and planned projects in the watershed in order to leverage efficiencies and identify opportunities to collaborate for more effective and integrated local action.

Water Technology and Innovation

The water sector is undergoing significant transformation driven by many factors including new technology, innovative local leaders, and water crises (drought, flooding, impaired quality, etc.). By capitalizing on key partnerships and leveraging the resources and expertise of others, the EPA has served as a catalyst to promote and support technology innovation to restore, protect and ensure

the sustainability of our water resources. FY 2017 initiatives will continue to encourage technology and innovation as a means to achieving sustainability in the water sector and identify and pursue strategic opportunities for influence, including:

- Continuing direct outreach to the water sector through technical assistance to in-the-field practitioners and water utilities;
- Continuing participation in high-profile industry conferences as a means to engage with a broad spectrum of stakeholders and partners, communicate the wide-ranging opportunities for innovation throughout the water sector and showcase successful examples of those technology innovations;
- Collaborating with key partners to provide expertise, advocacy, and sponsorship to external organizations (e.g., Water Environment Federation, National Association of Clean Water Agencies, American Water Works Association) and other federal agencies (e.g., United States Geological Survey, Department of Energy).

Performance Targets:

Measure	(L) Number of water body segments identified by states in 2002 as not attaining standards, where water quality standards are now fully attained (cumulative).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	2,809	3,073	3,324	3,727	3,829	4,016	4,082	4,182	Segments
Actual	2,909	3,119	3,527	3,679	3,866	3,944			

Measure	(bpv) Percent of high-priority EPA and state NPDES permits (including tribal) that are issued in the fiscal year.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	95	100	100	80	80	80	67.9	80	Permits
Actual	138	132	128	55	77	81			

Measure	(bpx) Extent of priority areas identified by each state that are addressed by EPA-approved TMDLs or alternative restoration approaches for impaired waters that will achieve water quality standards. These areas may also include protection approaches for unimpaired waters to maintain water quality standards.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target						8	8	12	% Priority Watershed Areas
Actual						Data Avail 9/2016			

Measure	(uw1) Number of urban water projects initiated addressing water quality issues in the community.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			3	10	30	22	49	25	Projects
Actual			46	9	65	28			

Measure	(uw2) Number of urban water projects completed addressing water quality issues in the community (cumulative).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target						61	78	124	Projects
Actual						60			

Measure	(wq2) Remove the specific causes of water body impairment identified by states in 2002 (cumulative).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	8,512	9,016	10,161	11,634	12,134	12,788	12,990	13,340	Causes
Actual	8,446	9,527	11,134	11,754	12,288	12,640			

Measure	(wq3) Improve water quality conditions in impaired watersheds nationwide using the watershed approach (cumulative).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	141	208	312	370	408	446	484	519	Watersheds
Actual	168	271	332	376	411	450			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$4,088.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$30.0 / -0.2 FTE) This program change reflects a reduction in program FTE support.
- (-\$2,200.0 / -8.0 FTE) This is a realignment of resources to the new WIFIA account for management and operation of the program, including 8.0 FTE.
- (+\$314.0) This reflects the realignment of the Center for Environmental Finance to the Drinking Water and Surface Water Protection Programs from the Office of the Chief Financial Officer.
- (+\$1,334.0) This program change reflects an increase of resources to fund the Water Infrastructure and Resiliency Finance Center to help communities across the country improve their wastewater, drinking water, and stormwater systems, particularly through innovative financing.
- (+\$4,500.0) This program change reflects an increase in support for a new approach for measuring improvements in water quality. It will aid in the development of tools needed to automate the linking of state assessment data, make updates and necessary improvements to incorporate data into the EPA data systems, and assist states in implementing the new approach.
- (+\$7,500.0) This program change reflects an increase in support for green infrastructure and MS4 activities to further the agency's sustainability goals. The EPA will expand green infrastructure technical assistance efforts to include more communities. The agency also will assist newly regulated MS4s to develop effective stormwater plans.

- (+\$5,691.0) This program change reflects an increase for surface water activities, including NPDES regulatory and technical assistance; water quality criteria; TMDL program implementation; and non-point source management.
- (+\$461.0) This program change reflects an increase for community activities in the clean water program. This increase will enable the EPA to focus resources and programs to better support the efforts of environmentally overburdened, underserved, and economically distressed communities. These efforts will proactively address endemic and emerging environmental challenges in ways that build a community's long-term sustainability.
- (+\$6,299.0) This program change reflects an increase in funding for water infrastructure to build the technical, managerial, and financial capabilities of wastewater systems with a strong focus on integrated planning.

Statutory Authority:

Clean Water Act.

Program Area: Indoor Air and Radiation

Indoor Air: Radon Program

Program Area: Indoor Air and Radiation

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Improve Air Quality

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$2,946.8	\$2,910.0	\$3,413.0	\$503.0
Science & Technology	\$183.3	\$172.0	\$0.0	(\$172.0)
Total Budget Authority / Obligations	\$3,130.1	\$3,082.0	\$3,413.0	\$331.0
Total Workyears	8.7	10.6	10.6	0.0

Program Project Description:

Title III of the Toxic Substances Control Act (TSCA) directs the EPA to undertake a variety of activities to address the public health risk posed by exposure to indoor radon. Under the statute, the EPA studies the health effects of radon, assesses exposure levels, sets an action level, provides technical assistance, and advises the public of steps they can take to reduce exposure.

Radon is the second leading cause of lung cancer in the United States – and the leading cause of lung cancer mortality among non-smokers – accounting for about 21,000 deaths per year. The EPA’s non-regulatory Indoor Air: Radon Program promotes actions to reduce the public’s health risk from indoor radon. The EPA and the Surgeon General recommend that people do a simple home test and, if levels above the EPA’s guidelines are confirmed, reduce those levels by home mitigation using inexpensive and proven techniques. The EPA also recommends that new homes be built using radon-resistant features in areas where there is elevated radon. Nationally, risks from radon have been reduced in many homes over the years, but many are still in need of mitigation. From 1990 to 2013, the number of homes with operating mitigation systems increased by more than 700 percent from 175,000 to 1,245,000 homes. During the same period, the estimated number of homes needing mitigation (i.e., having radon levels at or above 4 picocuries per liter (pCi/L) and no mitigation system) increased by 14 percent; from about 6.2 million to 7.1 million homes.³⁴⁴ This voluntary program has succeeded in promoting partnerships between national organizations, the private sector, and more than 50 state, local, and Tribal governmental programs to achieve radon risk reduction.

FY 2017 Activities and Performance Plan:

In FY 2016, the EPA closed out the Federal Action Plan and launched a broader plan, the National Radon Action Plan, which was endorsed by nine non-governmental organizations and three federal agencies. In FY 2017, the EPA will continue to lead the federal government’s response to radon and continue to implement the agency’s own multi-pronged radon program. The EPA will drive action at the national level to reduce radon risk in homes and schools through the National

³⁴⁴ The number of homes with radon mitigation systems was developed from unpublished sales data provided by U.S. radon vent fan manufacturers (U.S. EPA, 2013).

Radon Action Plan, partnerships with the private sector and public health groups, public outreach and education activities. The agency will encourage radon risk reduction as a normal part of doing business in the real estate marketplace, will promote local and state adoption of radon prevention standards in building codes, and will participate in the development of national voluntary standards (e.g., mitigation and construction protocols) for adoption by states and the radon industry.³⁴⁵

Performance Targets:

Measure	(R50) Percentage of existing homes with an operating radon mitigation system compared to the estimated number of homes at or above EPA's 4pCi/L action level.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	12.0	12.5	13.3	13.9	13.9	14.9	14.9	14.9	Percent of Homes
Actual	12.3	12.9	14.1	15	Data Avail 3/2016	Data Avail 12/2016			

Measure	(R51) Percentage of all new single-family homes (SFH) in high radon potential areas built with radon reducing features.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	33.0	34.5	36.0	37.5	37.5	40.5	40.5	40.5	Percent of Homes
Actual	40.1	38.2	44.6	38.9	44.1	Data Avail 12/2016			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$200.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$303.0) This program change reflects an increase to important activities for increased action on radon, including support for the National Radon Action Plan.

Statutory Authority:

Title III of the Toxic Substances Control Act (TSCA); Title IV of the Superfund Amendments and Reauthorization Act of 1986 (SARA); Clean Air Act.

³⁴⁵ <http://www.epa.gov/radon>.

Reduce Risks from Indoor Air
 Program Area: Indoor Air and Radiation
 Goal: Addressing Climate Change and Improving Air Quality
 Objective(s): Improve Air Quality

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$16,607.2</i>	<i>\$13,733.0</i>	<i>\$14,187.0</i>	<i>\$454.0</i>
Science & Technology	\$309.9	\$209.0	\$414.0	\$205.0
Total Budget Authority / Obligations	\$16,917.1	\$13,942.0	\$14,601.0	\$659.0
Total Workyears	47.1	40.7	40.7	0.0

Program Project Description:

Title IV of the Superfund Amendments and Reauthorization Act of 1986 (SARA) gives the EPA broad authority to conduct and coordinate research on indoor air quality, develop and disseminate information, and coordinate risk reduction efforts at the federal, state, and local levels.

In this non-regulatory program, the EPA utilizes a range of strategies, including partnerships with non-governmental, professional, federal, state and local organizations, to educate and equip individuals, school districts, industry, the health care community, and others to take action to reduce health risks from poor indoor air quality in homes, schools, and other buildings. The air inside homes, schools, and offices can be more polluted than outdoor air even in the largest and most industrialized cities.³⁴⁶ People typically spend close to 90 percent of their time indoors – where concentrations of certain volatile organic compounds and air toxic pollutants are often two to five times higher than outdoors.³⁴⁷ Exposure to radon poses long term cancer risks and secondhand tobacco smoke is both a cardiovascular and cancer risk in adults and a major contributor to childhood illnesses, including asthma attacks. People also are exposed indoors to unhealthy levels of combustion by-products such as carbon monoxide and to asthma triggers, including mold, pests dust mites, and nitrogen dioxide. These conditions can impact everyone, but there is a disproportionate burden for children, the elderly, low-income families and people with respiratory conditions, including asthma.

Approximately 6 million children in the U.S. have asthma resulting in 140 thousand hospitalizations and nearly 10.5 million school days lost annually.^{348,349,350} Asthma persists into adulthood and the costs to society are high with medical and lost productivity costs estimated to

³⁴⁶ U.S. EPA. 1987. *The Total Exposure Assessment Methodology (TEAM) Study: Summary and Analysis Volume I*. EPA 600-6-87-002a. Washington, DC: Government Printing Office.

³⁴⁷ U.S. EPA. 1989. *Report to Congress on Indoor Air Quality, Volume II: Assessment and Control of Indoor Air Pollution*. EPA 40-6-89-001C. Washington, DC: Government Printing Office.

³⁴⁸ National Health Interview Survey (NHIS) Data, 2013 <http://www.cdc.gov/asthma/nhis/2013/data.htm>;

³⁴⁹ Hall MJ, DeFrances CJ, Williams SN, Golosinskiy A, Schwartzman A. National Hospital Discharge Survey: 2007 summary. National health statistics reports; no 29. Hyattsville, MD: National Center for Health Statistics. 2010.

³⁵⁰ National Surveillance of Asthma: United States, 2001-2010 http://www.cdc.gov/nchs/data/series/sr_03/sr03_035.pdf.

be \$56 billion annually³⁵¹. Reducing racial and ethnic asthma disparities is a priority given that the prevalence of asthma in non-Hispanic African American and Puerto Rican children is twice that of white children. Compared to white children with asthma, black children are twice as likely to have an emergency department visit and to require hospitalization, and four times more likely to die due to asthma. According to the Centers for Disease Control, more than 3,500 people die unnecessarily from asthma each year in the U.S.³⁵²

To address asthma, the EPA recently completed a 10-year effort to build capacity at the national, state and local levels to manage environmental asthma triggers by directly training 45,700 healthcare professionals. During this timeframe, the EPA also has led the federal effort to educate, equip and support community asthma programs across the country to deliver comprehensive asthma care. The EPA reached an important milestone and enrolled the thousandth program in AsthmaCommunityNetwork.org, a virtual, on-line interactive community for asthma champions to *Share, Learn and Connect* with peers in order to advance asthma care.

Globally, indoor air pollution, primarily from unvented cooking and heating appliances, is the fourth leading cause of premature death and the worst environmental health risk factor in the world. The EPA provides important technical expertise to projects addressing these risks.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA's Indoor Air Program will continue to promote and guide improvements in the design, operation, and maintenance of buildings, including homes and schools, to promote healthier indoor air and protect children and other vulnerable populations. The EPA will build the capacity of community-based organizations to provide comprehensive asthma care that integrates management of indoor environmental asthma triggers and health care services, with a particular focus on populations disproportionately impacted by asthma, including low-income, minority and Tribal communities. Strong evidence indicates that asthma, which disproportionately affects these communities, is exacerbated and sometimes caused by exposures to environmental pollutants in homes. Further evidence indicates that investment in home interventions offers a powerful strategy for improving health outcomes and reducing or shifting health care costs from medical treatment to secondary prevention and thereby, improving a community's health, resilience and sustainability. The EPA's asthma education and outreach program will continue to equip state, local and community-based programs to support delivery, infrastructure and sustainability of comprehensive asthma programs with an effective indoor environmental intervention component. The EPA will place a particular emphasis on serving low-income and minority populations disproportionately impacted by poor asthma outcomes. The EPA is one of three agency co-chairs of the Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities, an initiative under the auspices of the President's Taskforce on Environmental Health Risks and Safety Risks to Children.

Additionally, the EPA will continue to develop and provide indoor air quality technical guidance and assistance that directly supports states, tribes, local governments, the general public, and a wide range of non-governmental organizations and networks, such as those representing public

³⁵¹ Centers for Disease Control and Prevention, (May 2011) Asthma in the U.S. Vital Signs <http://www.cdc.gov/vitalsigns/asthma/>

³⁵² Centers for Disease Control. 2013. National Vital Statistics Report, Vol. 63, No. 9, August 31, 2015.

health professionals, business officials, residential and commercial building designers and managers, school administrators, energy managers, and indoor air quality service providers. As part of this effort, the EPA will collaborate with public and private sector organizations to provide clear and verifiable protocols and specifications for promoting good indoor air quality and efficiently integrate these protocols and specifications into existing energy efficiency, green building, and health-related programs and initiatives to promote healthy buildings for a changing climate. The comprehensive and integrated specifications and protocols will address the control and management of moisture and mold, combustion gases, particles and VOCs, and protection and management of HVAC systems to ensure adequate ventilation and combustion safety. FY 2017 activities will include equipping the affordable housing sector with guidance to promote the adoption of these best practices with the aim of creating healthier, more energy efficient homes for low-income families.

Internationally, the EPA will continue to support the efforts of the Global Alliance for Clean Cookstoves, a public-private initiative dedicated to developing a global market for clean and efficient cookstoves, to achieve adoption of clean cookstoves and fuels in 100 million households by 2020. The EPA also will continue to provide technical expertise and assistance to developing countries to assist organizations within those countries to reduce human health risks due to indoor smoke from cooking and heating fires. Since 2003, more than 30 million households worldwide have been documented to have adopted clean and efficient cooking practices through the EPA's and the Alliance's programs. The EPA estimates this is reducing 150 million people's exposure to dangerous pollutants.

Performance Targets:

Measure	(R19) Cumulative number of programs supporting the delivery, infrastructure, and sustainable financing of environmental asthma interventions at home and school.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target							300	600	Programs
Actual									

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$268.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$186.0) This program change reflects an increase to support building, health, and physical science capacity and indoor air quality technical guidance development.

Statutory Authority:

Title III of the Toxic Substances Control Act (TSCA); Title IV of the Superfund Amendments and Reauthorization Act of 1986 (SARA); Clean Air Act.

Radiation: Protection

Program Area: Indoor Air and Radiation

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Minimize Exposure to Radiation

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	<i>\$8,167.4</i>	<i>\$8,443.0</i>	<i>\$8,975.0</i>	<i>\$532.0</i>
Science & Technology	\$2,129.4	\$1,835.0	\$3,062.0	\$1,227.0
Hazardous Substance Superfund	\$1,869.5	\$1,985.0	\$2,182.0	\$197.0
Total Budget Authority / Obligations	\$12,166.3	\$12,263.0	\$14,219.0	\$1,956.0
Total Workyears	56.8	59.1	59.1	0.0

Program Project Description:

Congress has designated the EPA as the primary federal agency charged with protecting human health and the environment from harmful and avoidable exposure to radiation. The EPA has important general and specific duties depending on the enabling legislation (e.g., Atomic Energy Act, Nuclear Waste Policy Act, Clean Air Act, etc). The EPA’s Radiation Protection Program carries out these responsibilities through its federal guidance and regulatory development activities, including: oversight of operations at the Department of Energy’s Waste Isolation Pilot Plant (WIPP);³⁵³ regulation of airborne radioactive emissions, and development and determination of appropriate methods to measure radioactive releases and exposures under Section 112 of the Clean Air Act, which governs the EPA’s authority to regulate hazardous air pollutants.

Other agency responsibilities include radiation cleanup and waste management guidance, radiation pollution prevention and guidance to federal agencies on radiation protection standards and practices. The agency’s radiation science is recognized nationally and internationally; it is the foundation that the EPA, other federal agencies and states use to develop radiation risk management policy, guidance, and rulemakings. The agency works closely with other national and international radiation protection organizations, such as the National Academy of Sciences, the National Council on Radiation Protection and Measurements, the International Atomic Energy Agency, the International Commission on Radiation Protection and the Organization of Economic and Cooperative Development’s Nuclear Energy Agency to advance scientific understanding of radiation risk.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to implement its regulatory oversight responsibilities for Department of Energy (DOE) activities at the Waste Isolation Pilot Plant (WIPP) facility, as mandated by Congress in the WIPP Land Withdrawal Act of 1992. This includes conducting

³⁵³ Additional information at: <http://www.epa.gov/radiation/wipp/background.html>.

inspections of waste generator facilities and evaluating DOE’s compliance with applicable environmental laws and regulations to ensure the permanent and safe disposal of all radioactive waste shipped to WIPP.

The EPA expects to complete review of public comments and move toward a final rule in FY 2017 for the Uranium Mill Tailings Radiation Control Act, Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings (40 CFR 192), last reviewed in 1995. Also, as recommended by the President’s Blue Ribbon Commission (BRC) on America’s Nuclear Future, the agency will work to ensure that the nation has generic, non-site-specific standards that protect public health and the environment from risks associated with geologic disposal of high-level radioactive waste.

Performance Targets:

Measure	(R37) Time to approve site changes affecting waste characterization at DOE waste generator sites to ensure safe disposal of transuranic radioactive waste at WIPP.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	70	70	70	70	70	70	70	70	Days
Actual	66	64	73	64	66	67			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$110.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$422.0) This program change reflects an increase in support of ongoing rulemakings and guidance related to protection from radiation risks.

Statutory Authority:

Atomic Energy Act of 1954; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (EPA’s organic statute); Clean Air Act; Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); Energy Policy Act of 1992; Nuclear Waste Policy Act of 1982; Public Health Service Act; Safe Drinking Water Act; Uranium Mill Tailings Radiation Control Act (UMTRCA) of 1978; Waste Isolation Pilot Plant Land Withdrawal Act of 1992; Marine Protection, Research, and Sanctuaries Act; Clean Water Act.

Radiation: Response Preparedness

Program Area: Indoor Air and Radiation

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Minimize Exposure to Radiation

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Environmental Program & Management</i>	\$2,535.7	\$2,550.0	\$3,333.0	\$783.0
Science & Technology	\$3,788.3	\$3,781.0	\$4,034.0	\$253.0
Total Budget Authority / Obligations	\$6,324.0	\$6,331.0	\$7,367.0	\$1,036.0
Total Workyears	37.3	39.2	39.2	0.0

Program Project Description:

The EPA generates policy guidance and procedures for the agency’s radiological emergency response under the National Response Framework (NRF) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The agency maintains its own Radiological Emergency Response Team (RERT) and is a member of the Federal Radiological Preparedness Coordinating Committee (FRPCC) and the Federal Advisory Team for Environment, Food and Health (the “A-Team”). The EPA responds to radiological emergencies, conducts national and regional radiological response planning and training, and develops response plans for radiological incidents or accidents.

FY 2017 Activities and Performance Plan:

In FY 2017, the RERT will maintain and improve its level of readiness to support federal radiological emergency response and recovery operations under the NRF and NCP. The EPA will design training and exercises to enhance the RERT’s ability to fulfill the EPA’s responsibilities and use them to improve overall radiation response preparedness.³⁵⁴

The EPA will continue to coordinate with interagency partners under the FRPCC to revise federal radiation emergency response plans and develop radiological emergency response protocols and standards. The agency will continue to develop guidance addressing lessons learned from incidents, including the Fukushima nuclear incident, and exercises to ensure more effective coordination of the EPA’s support with other federal and state response agencies. The EPA will continue to develop and maintain Protective Action Guides (PAGs) for use by federal, state and local responders. The agency expects to issue a revised final PAG Manual during FY 2017; the EPA will provide training on the use of PAGs to users through workshops and radiological emergency response exercises.

The EPA will continue to participate in planning and implementing international and federal table-top and field exercises including radiological anti-terrorism activities with the Nuclear

³⁵⁴ Additional information can be accessed at: <http://www.epa.gov/radiation/rert/>.

Regulatory Commission (NRC), Department of Energy (DOE), Department of Defense (DOD) and Department of Homeland Security (DHS). The EPA also will continue to train state, local and federal officials and provide technical support to federal and state radiation, emergency management, solid waste and health programs that are responsible for radiological emergency response and the development of their own preparedness programs.

The EPA will continue to develop and use both laboratory and field measurement methods, procedures and quality systems to support expedited assessment and characterization of outdoor and indoor areas impacted with radiological contamination. Application of these methods and procedures will support rapid assessment and triage of impacted areas (including buildings, indoor environments and infrastructure) and the development of cleanup strategies.

Performance Targets:

Measure	(R35) Level of readiness of radiation program personnel and assets to support federal radiological emergency response and recovery operations.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	90	90	90	90	93	93	93	93	Percent Readiness
Actual	97	97	92	99	94	93			

Measure	(R36) Average time before availability of quality assured ambient radiation air monitoring data during an emergency.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	0.7	0.7	0.5	0.5	0.5	0.3	0.3	0.3	Days
Actual	0.5	0.5	0.4	0.3	0.3	0.3			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$217.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$566.0) This program change reflects an increase for technical radiation expertise to support core emergency response activities including the development of guidance and training for radiation response.

Statutory Authority:

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); Homeland Security Act of 2002; Atomic Energy Act of 1954; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (EPA’s organic statute); Clean Air Act; Post-Katrina Emergency Management Reform Act of 2006 (PKEMRA); Public Health Service Act (PHSA); Robert T. Stafford Disaster Relief and Emergency Assistance Act; Safe Drinking Water Act (SDWA).

Program Area: Congressional Priorities

Water Quality Research and Support Grants

Program Area: Congressional Priorities

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems; Protect Human Health

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Science & Technology	\$4,119.0	\$14,100.0	\$0.0	(\$14,100.0)
<i>Environmental Program & Management</i>	<i>\$12,700.0</i>	<i>\$12,700.0</i>	<i>\$0.0</i>	<i>(\$12,700.0)</i>
Total Budget Authority / Obligations	\$16,819.0	\$26,800.0	\$0.0	(\$26,800.0)
Total Workyears	0.0	4.0	0.0	-4.0

Program Project Description:

In FY 2016, Congress appropriated \$12.7 million for an Environmental Protection: National Priority competitive grant program to provide training and technical assistance to small public water systems, wastewater systems, and private well owners located in rural and urban communities to improve water quality and provide safe drinking water. The purpose of these cooperative agreements was to provide training and technical assistance for small public water systems to help such systems achieve and maintain compliance with the Safe Drinking Water Act (SDWA) and to provide training and technical assistance for small publicly-owned wastewater systems, communities served by onsite/decentralized wastewater systems, and private well owners to improve water quality under the Clean Water Act (CWA).

FY 2017 Activities and Performance Plan:

The EPA is not requesting funds to support this grant program in FY 2017.

Performance Targets:

Currently, there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$12,700.0) This program change reflects the elimination of the grant program since states are best positioned to develop technical assistance plans for their water systems using Public Water System Supervision funds and set-asides from the Drinking Water State Revolving Fund (DWSRF).

Statutory Authority:

SDWA, 42 U.S.C. §300j-1c, Section 1442. CWA.104(b)(3).

**Environmental Protection Agency
2017 Annual Performance Plan and Congressional Justification**

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**Environmental Protection Agency
FY 2017 Annual Performance Plan and Congressional Justification**

**APPROPRIATION: Inspector General
Resource Summary Table
(Dollars in Thousands)**

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Inspector General				
Budget Authority	\$42,542.3	\$41,489.0	\$51,527.0	\$10,038.0
Total Workyears	233.9	268.0	268.0	0.0

*For ease of comparison, Superfund transfer resources for the audit and research functions are shown in the Superfund account.

Bill Language: Inspector General

For necessary expenses of the Office of Inspector General in carrying out the provisions of the Inspector General Act of 1978, \$51,527,000, to remain available until September 30, 2018. (Department of the Interior, Environment, and Related Agencies Appropriations Act, 2016.)

**Program Projects in IG
(Dollars in Thousands)**

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Audits, Evaluations, and Investigations				
Audits, Evaluations, and Investigations	\$42,542.3	\$41,489.0	\$51,527.0	\$10,038.0
Subtotal, Audits, Evaluations, and Investigations	\$42,542.3	\$41,489.0	\$51,527.0	\$10,038.0
TOTAL, EPA	\$42,542.3	\$41,489.0	\$51,527.0	\$10,038.0

*For ease of comparison, Superfund transfer resources for the audit and research functions are shown in the Superfund account.

Program Area: Audits, Evaluations, and Investigations

Audits, Evaluations, and Investigations

Program Area: Audits, Evaluations, and Investigations

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Inspector General</i>	\$42,542.3	\$41,489.0	\$51,527.0	\$10,038.0
Hazardous Substance Superfund	\$9,959.3	\$9,939.0	\$8,778.0	(\$1,161.0)
Total Budget Authority / Obligations	\$52,501.6	\$51,428.0	\$60,305.0	\$8,877.0
Total Workyears	288.0	318.1	318.1	0.0

Program Project Description:

The EPA's Office of Inspector General provides independent audit, program evaluation, inspection and investigative services and products that fulfill the requirements of the Inspector General Act, as amended, by identifying fraud, waste, and abuse in agency, grantee and contractor operations, and by promoting economy, efficiency, and effectiveness in the operations of the agency's programs. Although the OIG is a part of the EPA, to ensure its independence, as specified in the IG Act (as amended), the OIG is funded with a separate appropriation within the agency. The OIG activities add value and enhance public trust and safety by providing the agency, the public, and Congress with independent analyses and recommendations that help the EPA management resolve risks and challenges, achieve opportunities for savings, and implement actions for safeguarding the EPA resources and accomplishing the EPA's environmental goals. The OIG activities also prevent and detect fraud in the EPA's programs and operations, including financial fraud, laboratory fraud, and cybercrime. The OIG consistently provides a significant positive return on investment to the public in the form of recommendations for improvements in the delivery of the EPA's mission, reduction in operational and environmental risks, costs savings and recoveries, and improvements in program efficiencies and integrity.

In addition, the EPA Inspector General was designated by Congress in 2004 to serve as the IG for the U.S. Chemical Safety and Hazard Investigation Board and provides the full range of audit, evaluation and investigative services specified by the Inspector General Act, as amended. Specifically, the OIG will conduct required audits of the CSB's financial statements and of CSB's compliance with the Federal Information Security Management Act. In addition, the OIG will perform audits and evaluations of the CSB's programmatic and management activities and follow-up on prior audit recommendations.

FY 2017 Activities and Performance Plan:

The EPA OIG will assist the agency and the CSB in their efforts to reduce environmental and human health risks by making recommendations to improve program operations, save taxpayer dollars, and resolve previously identified major management challenges and internal control weaknesses. In FY 2017, the OIG will continue focusing on areas associated with risk, fraud, waste, and cybercrimes, and will expand its attention to making recommendations that improve operating efficiency, transparency, secured and trustworthy systems, and the cost effective attainment of the EPA's strategic goals and positive environmental impacts.

OIG's plans will be implemented through audits, evaluations, investigations, inspections and follow-up reviews in compliance with the Inspector General Act (as amended), applicable professional standards of the U. S. Comptroller General, and the Quality Standards for Federal Offices of Inspector General of the Council of Inspectors General on Integrity and Efficiency. OIG conducts the following types of audits: (1) program performance audits of agency operations, including those focused on the award and administration of grants and contracts; (2) financial statement audits; (3) financial audits of grantees and contractors; (4) efficiency audits; and (5) information resources management audits. In addition, program evaluations will be conducted in the areas of the EPA's mission objectives for improving and protecting the environment and public health via reviews of: (1) air; (2) water; (3) land cleanup and waste management; (4) toxics, chemical management and pollution prevention; (5) science, research, and management integrity; and (6) special program reviews including those generated by Hotline or Congressional requests.

The investigative mission of the OIG continues to evolve in conducting criminal, civil, and administrative investigations into fraud and serious misconduct within the EPA programs and operations that undermine the organization's integrity, public trust, and create an imminent risk or danger. The OIG investigations are coordinated with the Department of Justice and other federal, state, and local law enforcement entities. These investigations often lead to successful prosecution and civil judgments wherein there is a recovery and repayment of financial losses. Major areas of investigative focus include: financial fraud, program integrity, threats to the agency's resources, employee integrity, cyber-crimes, and theft of intellectual or sensitive data.

A significant portion of audit resources will be devoted to statutorily mandated work assessing the financial statements of the EPA and the CSB, as required by the Chief Financial Officers Act and the Accountability of Tax Dollars Act of 2002, respectively. The OIG work also will include assessing the information security practices of the EPA and the CSB as required by the Federal Information Security Management Act and oversight of audits of the EPA assistance agreement recipients conducted pursuant to the Single Audit Act. The OIG will examine the delivery of national programs, as well as specific cross-regional and single region or place based issues including inspection of facilities that represent a risk to public health in response to stakeholder concerns.

The OIG continues to balance its workload with the capacity of a smaller workforce, while meeting statutorily-mandated requirements and delivering a strong return on investment.

Based on prior work, cross-agency risk assessment, agency challenges, including those associated with the Chemical Safety Board, future priorities, and extensive stakeholder input, the OIG will concentrate its resources on efforts in the following strategic themes and continuing or prospective assignment areas during FY 2017:

Sound and Economical Financial Management

- Improper payments
- Internal controls
- Annual financial statements
- Audits of costs claimed by grantees and contractors
- Grant and contract administration
- Acquisition planning
- Lean government initiative
- Maximizing cost efficiencies
- Information technology capital investments
- Technological changes create transformation opportunities
- The EPA transit subsidy program
- Travel card review, including risk assessment
- Purchase card and convenience check program, including risk assessment
- Estimate of costs to refineries to implement Tier 3 Fuel Sulfur Rule
- Oversight of Chief Information Officer's responsibilities under the Federal Information Technology Acquisition Reform Act
- Oversight of the EPA's compliance with the Federal Information Security Modernization Act

Efficient Processes and Use of Resources

- Review of religious compensatory time program
- Examination of EPA administrative leave policies
- Review of Working Capital Fund cost rates
- Examination of processes for preserving text messages
- Review of simplified acquisitions using purchase orders
- Management of Brownfield Revolving Loan Funds after grant closeout
- Review of EPA process on reducing taxpayer environmental liabilities
- Partnering or coordination with other agencies to maximize efficiencies
- Impact of CSB's safety recommendations
- Opportunities to reduce duplication, overlap and fragmentation within the EPA
- Controls for travel of CSB employees, travel and purchase card
- Review of STAR grants for inefficiencies
- Examination of ambient monitoring data changes and gaps
- Review of EPA management controls for leave bank program
- Review of CSB compliance with Improper Payments Act
- Review of San Francisco Bay Water Quality Improvement Fund Grants
- Monitoring of performance based contracts

Ensuring the Integrity of Science and Information

- Protection from advanced persistent threats to steal/modify data
- Scientific integrity
- Agency efforts to enhance its capability to respond to cyber-attacks
- Cyber security/infrastructure development; and assessment of processes to ensure protection and security of information systems from fraud, waste and abuse
- The EPA Research and the Technology Transfer Act
- Implementation of Benzene Fuel Content Standards
- Assessment of the effectiveness of the EPA's pesticide import inspections
- Evaluation of the integrity of the antimicrobial testing program

Addressing At-Risk Populations, Chronic and Emerging Environmental Health Challenges

- Energy and natural resources (exploration/extraction of oil, natural gas, and coal)
- Inspection of High-Risk Management Program Facilities
- Inspections and evaluations of CAA sources
- Assessment of progress toward program goals of Chesapeake Bay Initiative
- Determine the effectiveness of the EPA's audit process for ensuring (1) the performance of air quality laboratories, and (2) the proper siting of air monitors
- Examination of greywater, ballast and bilge water releases from ships
- Assessment of CSO storage tunnels that have potential to contaminate drinking water aquifers

Assessing Risk Management and Performance Measurement

- Implementation of Federal Managers Financial Integrity Act, Federal Information Security Management Act and Government Performance and Results Act
- Disaster response and homeland security and emergency preparedness and response including the Chemical Safety and Hazard Investigation Board
- Review of notification process for drinking water contamination incidents in California
- Brownfields Revolving Loan Fund Assistance Agreement
- Determine whether Oregon Health Authority's labor charging practices comply with federal regulations and grant conditions, and the effect of any noncompliance on amounts incurred by OHA and reimbursed by the EPA
- Construction grants awarded to the District of Columbia Water and Sewer Authority
- Assessment of the EPA's classification of National Security Information
- Assessment of risk identification for orphan closed hazardous waste units
- Review of CGI federal performance
- CSB proposed management challenges and internal control weaknesses

Reviewing Effectiveness of Stewardship, Sustainability and Prevention

- Assessment of the EPA's efforts to protect Tribal communities from risks related to underground storage tanks
- Review of long term risks from short-term disposal of debris from natural disasters
- Assessment of the Clean Water State Revolving Fund Green Project Reserve Program
- Review of the EPA and states regulating mercury contamination

- Evaluation of pesticide program's genetically engineered corn insect resistance management
- Assessment of benefits to the EPA's research goals from reimbursable funds research activity
- Effectiveness of compliance assurance activities for major and synthetic minor clean air act sources
- Assessment of indoor mold cleanup decisions tool
- Review of clean air act compliance inspector training
- permitting of emissions for startup, shutdown and malfunctions
- Readiness reviews of agency DATA act implementation efforts

Assessing Program Integrity, Oversight, Enforcement and Efficient Rulemaking

- Oversight of delegated programs, data systems, relationships with states/regions
- Data systems/requirements for state oversight
- The EPA's relationships with regions and states
- Adequacy of the EPA's oversight of state FIFRA Programs
- Evaluation of the Management Auditing Tracking System
- Oversight of role in rail car spill incident
- Review of workforce restructuring under VERA/VSIP
- Oversight of Clean Water State Revolving Loan Funds
- The EPA progress on meeting RCRA statutory mandate for minimum frequency of inspections at hazardous waste disposal facilities
- Review of EPA oversight of safe drinking water in small systems with serious violations
- Enforcement of restrictions on the production, import and use of methyl bromide
- Audit of CSB investigation board's compliance with the Federal Information Security Modernization Act for FY 2016
- Oversight of efforts to evaluate and reduce air emissions from CAFOs
- Accessing the EPA's policy, procedures, and internal controls to prevent or reduce improper computer use
- Audit of CSB Governance
- Oversight of delegated state RCRA programs

Investigations

The Office of Investigations' (OI) mission is to conduct criminal, civil, and administrative investigations of fraud, waste and abuse and serious misconduct within the EPA's programs, projects, and resources. The OI investigations are worked in conjunction with the Department of Justice for criminal and civil litigation or EPA management for administrative action. The OI currently investigates the following: 1) fraudulent practices in awarding, performing, and paying the EPA contracts, grants, or other assistance agreements; 2) program fraud or other acts that undermine the integrity of, or confidence in agency programs, and create imminent environmental risks; 3) laboratory fraud relating to data, and false claims for erroneous laboratory results that undermine the basis for decision-making, regulatory compliance, or enforcement actions; 4) threats directed against EPA employees or facilities; 5) criminal conduct or serious administrative misconduct by EPA employees; and 6) intrusions into and attacks against the EPA's network supporting program data, as well as incidents of computer misuse and theft of intellectual property

or sensitive/proprietary data. Special attention will be directed towards identifying the tactics, techniques, and procedures that are being utilized by cyber criminals to obtain EPA information.

Finally, the OI develops recommendations or “lessons learned” for the EPA’s management to reduce the agency’s vulnerability to criminal activity. The OI’s investigations provide measurable results wherein recovery and restitution of financial losses are achieved and administrative actions are taken to prevent those involved from further participation in any of the EPA’s programs or operation.

Follow-up and Policy/Regulatory Analysis

To further promote economy, efficiency and effectiveness, the OIG will conduct follow-up reviews of agency responsiveness to the OIG’s recommendations to determine if appropriate actions have been taken and intended improvements have been achieved. This process will serve as a means for keeping Congress and the EPA leadership apprised of accomplishments, opportunities for needed corrective actions, and facilitate greater accountability for results from the OIG operations.

Additionally, as directed by the IG Act (as amended), the OIG also conducts reviews and analysis of proposed and existing policies, rules, regulations and legislation to identify vulnerability to waste, fraud and abuse. These reviews also consider possible duplication, gaps or conflicts with existing authority, leading to recommendations for improvements in their structure, content and application.

Performance Targets:

Measure	(35A) Environmental and business actions taken for improved performance or risk reduction.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	334	334	334	307	248	268	268	274	Actions
Actual	391	315	216	215	324	296			

Measure	(35B) Environmental and business recommendations or risks identified for corrective action.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	903	903	903	786	687	967	1,094	1,094	Recommendations
Actual	945	2011	1242	1003	944	1110			

Measure	(35C) Return on the annual dollar investment, as a percentage of the OIG budget, from audits and investigations.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	120	120	110	125	132	220	220	220	Percent
Actual	36	151	743	248	734	1656			

Measure	(35D) Criminal, civil, administrative, and fraud prevention actions.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	75	80	85	90	125	175	145	145	Actions
Actual	115	160	152	256	213	304			

FY 2017 Change from FY 2016 Enacted (Dollars in Thousands):

- (+\$6,901.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$786.0) This realignment reflects a shift in resources from the Superfund account to the IG Management account to maximize the flexibility of resources for prioritizing audit activities.
- (+\$2,351.0) This program change reflects an increase of critical resources to allow the agency to carry out all mission essential functions, including audit functions for the EPA and the U.S. Chemical Safety Hazard and Investigations Board.

Statutory Authority:

Inspector General Act, as amended; Inspector General Reform Act.

Inspector General Reform Act:

The following information is provided pursuant to the requirements of the Inspector General Reform Act:

- the aggregate budget request from the Inspector General for the operations of the OIG is \$60.3 million (\$51.5 million Inspector General; \$8.8 million Superfund Transfer);
- the aggregate President's budget for the operations of the OIG is \$60.3 million (\$51.5 million Inspector General; \$8.8 million Superfund Transfer);
- the portion of the aggregate President's budget needed for training is \$700 thousand (\$574 thousand Inspector General; \$126 thousand Superfund Transfer);
- the portion of the aggregate President's budget needed to support the Council of the Inspectors General on Integrity and Efficiency is \$179 thousand (\$143.2 thousand Inspector General; \$35.8 thousand Superfund Transfer).

"I certify as the Inspector General of the Environmental Protection Agency that the amount I have requested for training satisfies all OIG training needs for FY 2017".

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**APPROPRIATION: Building and Facilities
Resource Summary Table
(Dollars in Thousands)**

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Building and Facilities				
Budget Authority	\$41,284.0	\$42,317.0	\$52,078.0	\$9,761.0
Total Workyears	0.0	0.0	0.0	0.0

Bill Language: Buildings and Facilities

For construction, repair, improvement, extension, alteration, and purchase of fixed equipment, land or facilities of, or for use by, the Environmental Protection Agency, \$52,078,000, to remain available until expended. (Department of the Interior, Environment, and Related Agencies Appropriations Act, 2016.)

**Program Projects in B&F
(Dollars in Thousands)**

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Homeland Security				
Homeland Security: Protection of EPA Personnel and Infrastructure	\$7,957.7	\$6,676.0	\$7,875.0	\$1,199.0
Operations and Administration				
Facilities Infrastructure and Operations	\$33,326.3	\$35,641.0	\$44,203.0	\$8,562.0
Subtotal, Facilities Infrastructure and Operations	\$33,326.3	\$35,641.0	\$44,203.0	\$8,562.0
TOTAL, EPA	\$41,284.0	\$42,317.0	\$52,078.0	\$9,761.0

Program Area: Homeland Security

Homeland Security: Protection of EPA Personnel and Infrastructure

Program Area: Homeland Security

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$5,610.7	\$5,346.0	\$6,392.0	\$1,046.0
Science & Technology	\$541.0	\$552.0	\$605.0	\$53.0
<i>Building and Facilities</i>	<i>\$7,957.7</i>	<i>\$6,676.0</i>	<i>\$7,875.0</i>	<i>\$1,199.0</i>
Hazardous Substance Superfund	\$1,351.7	\$1,086.0	\$1,113.0	\$27.0
Total Budget Authority / Obligations	\$15,461.1	\$13,660.0	\$15,985.0	\$2,325.0
Total Workyears	3.1	12.2	12.2	0.0

Program Project Description:

This program supports physical security and safeguards the agency's workforce, facilities, and assets based on federally mandated priorities related to physical access control and protecting critical infrastructure. The program aims to protect classified national security information through the construction and build-out of Secure Access Facilities (SAFs) and Sensitive Compartmented Information Facilities (SCIFs). Work under the Building and Facilities appropriation supports larger physical security improvements to leased and owned space.

These resources support homeland security by ensuring that emergency response equipment stored at the EPA's facilities, labs, and warehouses is protected to deter sabotage, theft, vandalism, terrorism, and other criminal acts. Buildings and Facilities funding in this program also enables the EPA to implement security measures in newly leased or renovated facilities to ensure the safety and protection of the EPA's personnel.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to mitigate physical vulnerabilities in its facilities and incorporate physical security measures in new construction, new leases, and major renovations. In accordance with the Interagency Security Committee Physical Security Criteria for federal facilities, the agency provides a full range of security improvements. The EPA also will continue to install upgraded Physical Access Control Systems as mandated by Homeland Security Presidential Directive 12 and its implementing standards and will expand or realign existing laboratories for homeland security support activities that protect critical infrastructure. Construction and build-out of SAFs and SCIFs will be carried out as needed.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently, there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$1,199.0) This program change funds projects that are critical to mitigate physical vulnerabilities and improve physical security at EPA facilities nationwide.

Statutory Authority:

Intelligence Reform and Terrorism Prevention Act of 2004; Homeland Security Act of 2002; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA’s organic statute).

Program Area: Operations and Administration

Facilities Infrastructure and Operations
Program Area: Operations and Administration

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Inland Oil Spill Programs	\$498.0	\$584.0	\$1,763.0	\$1,179.0
Science & Technology	\$67,222.2	\$68,339.0	\$78,447.0	\$10,108.0
Environmental Program & Management	\$313,026.1	\$311,540.0	\$329,281.0	\$17,741.0
Leaking Underground Storage Tanks	\$757.9	\$783.0	\$1,101.0	\$318.0
Building and Facilities	\$33,326.3	\$35,641.0	\$44,203.0	\$8,562.0
Hazardous Substance Superfund	\$77,680.0	\$74,278.0	\$70,960.0	(\$3,318.0)
Total Budget Authority / Obligations	\$492,510.5	\$491,165.0	\$525,755.0	\$34,590.0
Total Workyears	327.1	350.2	349.9	-0.3

Program Project Description:

The EPA's Buildings and Facilities (B&F) appropriation supports the design, construction, repair, and improvement of the EPA's federally owned and leased land and structures in accordance with applicable codes and standards. Construction renovation and alteration projects costing more than \$150 thousand must use B&F funding.

B&F resources ensure that the agency complies with various mandates and goals including: the Energy Policy Act of 2005, the Energy Independence and Security Act of 2007 (EISA), Executive Order (EO) 13693,¹ *Planning for Federal Sustainability in the Next Decade*, and regulatory mandates associated with soil and water pesticides testing. B&F also enables the EPA to meet federal facility environmental targets and objectives related to: Greenhouse Gas Scope 1 and 2 emissions (reduce 46 percent by FY 2025); energy efficiency (annual energy use reductions of two and one half percent per year through FY 2025); water conservation (annual water use reductions of two percent per year through FY 2025); advanced metering; stormwater management; upgrades to the EPA's existing real estate portfolio to meet "high performance sustainable" green building standards (15 percent of existing real estate by FY 2025); and the reduction of fossil fuel use in new buildings.²

¹ For additional information, refer to: <https://www.fedcenter.gov/programs/eo13693/>, *Planning for Federal Sustainability in the Next Decade*.

² For additional information, refer to: <https://www.gpo.gov/fdsys/pkg/FR-2015-03-25/pdf/2015-07016.pdf>.

FY 2017 Activities and Performance Plan:

As part of the EPA's efforts toward continuing to improve as a High Performing Organization and in accordance with the National Strategy for the Efficient Use of Real Property 2015-2020 and OMB Directive M-12-12 Section 3,³ the agency will continue to review space needs. The EPA is implementing a long-term space consolidation plan that will reduce the number of occupied facilities, consolidate space within remaining facilities, and reduce square footage wherever practical. B&F resources support facility-related construction, and the repair and improvement (R&I) of the EPA's aging real estate inventory. Good stewardship practices demand that the physical conditions, functionality, safety and health, security, and research capabilities of our facilities are adequately maintained to ensure successful completion of the EPA's mission requirements and goals.

The B&F appropriation is under significant strain in response to the massive demand for its resources and GSA imposed leasing requirements. In any given year, the EPA's programs and Regional Offices submit approximately \$80 to \$100 million in requests for B&F projects, well above the funding available. Almost every project is important to the long-term condition or efficiency of the buildings. To further complicate matters, the agency projects that the need for B&F resources will increase in response to new GSA leasing practices, which restrict agencies from including sustainable features⁴ in new leases paid over the life of the lease, and now require agencies to pay for them as tenant improvements (TI) or up front and ongoing project costs.

This new requirement significantly increases TI cost for new leases at the same time that GSA and the agency are consolidating space and moving into new locations to meet new space utilization requirements. Projections indicate that in some cases, TI costs associated with leasing a new office could absorb close to all of the B&F resources appropriated in a given fiscal year. For example, according to GSA estimates, TI above the amount amortized in the rent for a new lease for the Region 6 office in Dallas, which will be awarded in FY 2016, is projected to cost \$15 million in B&F resources alone. Further, in FY 2017, the TI for a new lease for the Region 3 office in Philadelphia, is projected to cost \$11 million.

In FY 2017, the agency will continue to explore opportunities to reconfigure the EPA's workplaces with the goal of reducing long-term rent costs. Space consolidations are currently planned in Regions 6 and 8. The Region 6 space consolidation will release approximately 30 thousand square feet. The Region 8 space consolidation will release approximately 70 thousand square feet. This work will enable the agency to release office space in support of the President's June 10, 2010 memorandum on "Disposing of Unneeded Federal Real Estate." Space consolidation and reconfiguration enables the EPA to reduce its footprint through a more efficient, collaborative, and technologically sophisticated workplace. Even if modifications are kept to a minimum, each move requires resources. To accomplish such consolidations, the EPA must use a mix of EPM, S&T, B&F, and Superfund funds depending upon the nature of the project. In order to capitalize on similar opportunities across the EPA's facilities and to capture significant cost savings, the agency's request supports an investment in space optimization and reconfiguration.

³ For additional information, refer to: <https://www.whitehouse.gov/sites/default/files/omb/financial/national-strategy-efficient-use-real-property.pdf> , *National Strategy for the Efficient Use of Real Property 2015-2020*.

⁴ Many of these features are required by EISA or executive orders.

The FY 2017 request also includes resources for ongoing projects that will provide critical support to aging laboratory facilities and are key to ensuring that the agency has access to preeminent laboratory science. These projects maintain a safe workplace, provide for high quality science, support agency priorities, and advance the agency mission. Delaying essential repairs results in the deterioration of the EPA's facilities, which increases long-term repair costs and presents safety risks.

In line with the recently completed Laboratory Study, the EPA will focus its investments on facility repairs in those laboratories that are critical to the agency's mission and will remain in the inventory for the foreseeable future. The labs remaining in the inventory will need infrastructure upgrades to maintain an acceptable Facility Condition Index and to allow for potential future consolidations from leased facilities, such as when the agency consolidated its laboratory at Bay St. Louis, MS and moved employees to space in Ft. Meade, MD. With respect to infrastructure upgrades, the agency will consolidate its lab in Willamette, OR contingent on an infrastructure replacement project at the Corvallis, OR lab. Similar infrastructure upgrades at the Montgomery, AL lab allowed the EPA to integrate employees from the radiation lab formerly located in Las Vegas, NV and consolidate to a single radiation laboratory and center of expertise.

In FY 2017, the agency proposes to initiate space optimization projects with the potential for the greatest long-term cost and energy savings, including the following:

- **Optimizing space at the Athens, GA laboratory.** EPA is currently reviewing a range of scenarios for optimizing laboratory space in Athens, GA. The agency is assessing scenarios based on the ability to improve laboratory science and advance the agency's mission in regards to cost efficacy. The EPA is still in the process of estimating cost and space savings associated with each scenario. Prior to optimizing the agency's space footprint in Athens, however, EPA must first invest in the design for the optimized layout. The EPA requests \$4 million in FY 2017 for this mechanical infrastructure improvement, which must occur prior to any space optimization work.
- **Co-location of the Region 8 laboratory with the NEIC laboratory.** The EPA plans to build on its FY 2016 investment in the Region 8-NEIC laboratory co-location. This space optimization project will provide the EPA with an efficient laboratory capable of high quality science that will advance the agency's mission. In addition, the investment will produce non-B&F savings and avoided costs and there will be no need to perform a costly renovation on the Region 8 laboratory. This project will reduce the space footprint by 39,215 rentable square feet and 84 parking spaces.
- **Willamette Consolidation to the Corvallis laboratory.** This project will cost \$1 million in order to consolidate staff from the Willamette laboratory. These resources enable the EPA to reconfigure lab modules to meet the needs of Willamette employees. Before the EPA consolidates the Willamette laboratory, the agency must modify swing space in Corvallis to accommodate employees from Willamette while the main infrastructure replacement project is underway. This project will reduce the space footprint by 20,918 rentable square feet.

In FY 2017, the EPA will continue its phased approach to accomplish major B&F projects across the country involving mechanical systems nearing the end of their useful life that also will ultimately result in energy savings. A few examples are listed below.

- **Replacement of air handlers at the Air and Radiation Lab, Montgomery, AL., Phase 3.** This phase of the project will replace the air handler systems within the laboratory and complete the infrastructure replacement project. Phase 3 is estimated at \$3.7 million. Phase 2 was delayed so Phase 3 will not take place until FY 2017. This investment, which will produce energy and related resource savings, represents a major priority as it is necessary to maintain operability at the Montgomery, AL lab.
- **Implementation of Phase 2 of the Infrastructure Replacement Project at the Research and Development laboratory in Corvallis, OR.** After the EPA completes Phase 1 construction in FY 2016, Phase 2 will commence in FY 2017 to replace the ductwork and reduce the number of fume hoods by more than 40 percent. A reduction in the number of fume hoods will result in a 20 percent reduction in energy consumption. New energy efficient equipment, procedures, and methods will incorporate reliability, sustainability, and safety while meeting mission requirements. This project is ongoing and the cost for Phase 2 is estimated at \$4.4 million.
- **New Region 3 office Tenant Improvements in Philadelphia, PA.** Region 3 has occupied its current leased location for nearly 25 years and significant changes and upgrades are required. A new lease in a new location will require construction of new special purpose spaces such as an emergency operations center, a CID secure space, a conference center for public meetings, and records storage for required Superfund documents. The GSA estimate for these costs above what will be amortized in the rent is \$11 million. A new lease will allow the EPA to meet new space standards for offices and will reduce the agency's footprint by 56,000 square feet and avoid an estimated \$1.6 million in lease costs per year.

Performance Targets:

Work under this program supports performance results in the Facilities Infrastructure and Operations program under the EPM appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment section. Information on the agency's energy/GHG reduction initiative can be found in the agency's Strategic Sustainability Performance Plan.⁵

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$8,562.0) This net program change includes a reduction of \$1.43 million for base resources, an increase of \$4 million to support construction associated with the agency's space consolidation efforts in Athens, GA, and an increase of \$5.991 million to support ongoing space optimization projects and laboratory upgrades at the NEIC/Region 8 laboratories and the Willamette Research Station/Corvallis laboratories. This work is

⁵ For additional information, refer to: <http://www.epa.gov/greeningepa/epa-strategic-sustainability-plans>.

essential in strengthening the EPA's laboratory enterprise to support our mission, and will provide necessary improvements to the benefit of our workforce and partners.

Statutory Authority:

Federal Property and Administration Services Act; Public Building Act; Robert T. Stafford Disaster Relief and Emergency Assistance Act; Clean Water Act; Clean Air Act; Resource Conservation and Recovery Act (RCRA); Toxic Substances Control Act (TSCA); National Environmental Policy Act (NEPA); Community Environmental Response Facilitation Act (CERFA); Energy Policy Act of 2005; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

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**Environmental Protection Agency
FY 2017 Annual Performance Plan and Congressional Justification**

**APPROPRIATION: Hazardous Substance Superfund
Resource Summary Table**

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Hazardous Substance Superfund				
Budget Authority	\$1,175,644.6	\$1,094,169.0	\$1,128,989.0	\$34,820.0
Total Workyears	2,679.5	2,662.6	2,653.6	-9.0

*For ease of comparison, Superfund transfer resources for the audit and research functions are shown in the Superfund account.

Bill Language: Hazardous Substance Superfund

For necessary expenses to carry out the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), including sections 111(c)(3), (c)(5), (c)(6), and (e)(4) (42 U.S.C. 9611) \$1,128,989,000, to remain available until expended, consisting of such sums as are available in the Trust Fund on September 30, 2016, as authorized by section 517(a) of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and up to \$1,128,989,000 as a payment from general revenues to the Hazardous Substance Superfund for purposes as authorized by section 517(b) of SARA: Provided, That funds appropriated under this heading may be allocated to other Federal agencies in accordance with section 111(a) of CERCLA: Provided further, That of the funds appropriated under this heading, \$8,778,000 shall be paid to the "Office of Inspector General" appropriation to remain available until September 30, 2018, and \$15,496,000 shall be paid to the "Science and Technology" appropriation to remain available until September 30, 2018. (Department of the Interior, Environment, and Related Agencies Appropriations Act, 2016.)

Program Projects in Superfund

(Dollars in Thousands)

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Indoor Air and Radiation				
Radiation: Protection	\$1,869.5	\$1,985.0	\$2,182.0	\$197.0
Audits, Evaluations, and Investigations				
Audits, Evaluations, and Investigations	\$9,959.3	\$9,939.0	\$8,778.0	(\$1,161.0)
Compliance				
Compliance Monitoring	\$1,001.7	\$995.0	\$1,099.0	\$104.0
Enforcement				

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Criminal Enforcement	\$6,996.9	\$7,124.0	\$7,824.0	\$700.0
Environmental Justice	\$605.1	\$545.0	\$612.0	\$67.0
Forensics Support	\$2,439.5	\$1,089.0	\$1,150.0	\$61.0
Superfund: Enforcement	\$154,870.8	\$150,628.0	\$158,619.0	\$7,991.0
Superfund: Federal Facilities Enforcement	\$6,730.0	\$6,989.0	\$7,452.0	\$463.0
Subtotal, Enforcement	\$171,642.3	\$166,375.0	\$175,657.0	\$9,282.0
Homeland Security				
Homeland Security: Preparedness, Response, and Recovery	\$39,405.1	\$35,276.0	\$31,503.0	(\$3,773.0)
Homeland Security: Protection of EPA Personnel and Infrastructure	\$1,351.7	\$1,086.0	\$1,113.0	\$27.0
Subtotal, Homeland Security	\$40,756.8	\$36,362.0	\$32,616.0	(\$3,746.0)
Information Exchange / Outreach				
Exchange Network	\$1,321.1	\$1,328.0	\$1,366.0	\$38.0
IT / Data Management / Security				
Information Security	\$541.5	\$6,083.0	\$4,704.0	(\$1,379.0)
IT / Data Management	\$13,865.7	\$13,802.0	\$15,437.0	\$1,635.0
Subtotal, IT / Data Management / Security	\$14,407.2	\$19,885.0	\$20,141.0	\$256.0
Legal / Science / Regulatory / Economic Review				
Alternative Dispute Resolution	\$748.8	\$675.0	\$767.0	\$92.0
Legal Advice: Environmental Program	\$735.5	\$578.0	\$511.0	(\$67.0)
Subtotal, Legal / Science / Regulatory / Economic Review	\$1,484.3	\$1,253.0	\$1,278.0	\$25.0
Operations and Administration				
Central Planning, Budgeting, and Finance	\$23,542.1	\$22,126.0	\$24,025.0	\$1,899.0
Facilities Infrastructure and Operations	\$77,680.0	\$74,278.0	\$70,960.0	(\$3,318.0)
Acquisition Management	\$20,910.2	\$22,461.0	\$24,468.0	\$2,007.0
Human Resources Management	\$7,683.0	\$6,345.0	\$8,020.0	\$1,675.0
Financial Assistance Grants / IAG Management	\$2,778.5	\$2,895.0	\$3,135.0	\$240.0
Subtotal, Operations and Administration	\$132,593.8	\$128,105.0	\$130,608.0	\$2,503.0
Research: Sustainable Communities				
Research: Sustainable and Healthy Communities	\$14,611.0	\$14,032.0	\$11,463.0	(\$2,569.0)

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Research: Chemical Safety and Sustainability				
Human Health Risk Assessment	\$2,618.7	\$2,843.0	\$2,824.0	(\$19.0)
Superfund Cleanup				
Superfund: Emergency Response and Removal	\$191,026.5	\$181,306.0	\$185,233.0	\$3,927.0
Superfund: EPA Emergency Preparedness	\$8,248.3	\$7,636.0	\$7,931.0	\$295.0
Superfund: Federal Facilities	\$23,212.2	\$21,125.0	\$26,770.0	\$5,645.0
Superfund: Remedial	\$560,891.9	\$501,000.0	\$521,043.0	\$20,043.0
Subtotal, Superfund: Remedial	\$560,891.9	\$501,000.0	\$521,043.0	\$20,043.0
Subtotal, Superfund Cleanup	\$783,378.9	\$711,067.0	\$740,977.0	\$29,910.0
TOTAL, EPA	\$1,175,644.6	\$1,094,169.0	\$1,128,989.0	\$34,820.0

*For ease of comparison, Superfund transfer resources for the audit and research functions are shown in the Superfund account.

Program Area: Indoor Air and Radiation

Radiation: Protection

Program Area: Indoor Air and Radiation

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Minimize Exposure to Radiation

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$8,167.4	\$8,443.0	\$8,975.0	\$532.0
Science & Technology	\$2,129.4	\$1,835.0	\$3,062.0	\$1,227.0
<i>Hazardous Substance Superfund</i>	<i>\$1,869.5</i>	<i>\$1,985.0</i>	<i>\$2,182.0</i>	<i>\$197.0</i>
Total Budget Authority / Obligations	\$12,166.3	\$12,263.0	\$14,219.0	\$1,956.0
Total Workyears	56.8	59.1	59.1	0.0

Program Project Description:

This program addresses potential radiation risks found at some Superfund and hazardous waste sites. Through this program, the EPA ensures that Superfund site cleanup activities reduce and/or mitigate the health and environmental risk of radiation to safe levels. In addition, the program makes certain that appropriate cleanup technologies and methods are adopted to effectively and efficiently reduce the health and environmental hazards associated with radiation problems encountered at these sites, some of which are located near at-risk communities. Finally, the program ensures that appropriate technical assistance is provided on remediation approaches for National Priorities List (NPL) and non-NPL sites.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA’s National Analytical Radiation Environmental Laboratory (NAREL) in Montgomery, Alabama, and National Center for Radiation Field Operations (NCRFO) in Las Vegas, Nevada, will continue to provide analytical and field support to manage and mitigate radioactive releases and exposures. These two organizations provide analytical and technical support for the characterization and cleanup of Superfund and Federal Facility sites. Support focuses on providing high quality data to support agency decisions at sites across the country.

The Radiation and Indoor Air program also provides specialized technical support on-site, including field measurements using unique tools and capabilities. In addition, NAREL and NCRFO provide data evaluation and assessment, document review, and field support through ongoing fixed and mobile capability. Thousands of radiochemical and mixed waste analyses are performed annually at NAREL on a variety of samples from contaminated sites. NAREL is the EPA’s only laboratory with this in-house mixed waste analytical capability. NCRFO provides field-based technical support for screening and identifying radiological contaminants at NPL and non-NPL sites across the country, including air sampling equipment and expert personnel.

Performance Targets:

Work under this program supports performance results in the Radiation: Protection program under the Environmental Programs and Management appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$197.0) This program change reflects an increase to support site assessment activities related to the consolidation of the EPA laboratory facilities in Las Vegas.

Statutory Authority:

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

Program Area: Audits, Evaluations and Investigations

Audits, Evaluations, and Investigations

Program Area: Audits, Evaluations, and Investigations

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Inspector General	\$42,542.3	\$41,489.0	\$51,527.0	\$10,038.0
<i>Hazardous Substance Superfund</i>	<i>\$9,959.3</i>	<i>\$9,939.0</i>	<i>\$8,778.0</i>	<i>(\$1,161.0)</i>
Total Budget Authority / Obligations	\$52,501.6	\$51,428.0	\$60,305.0	\$8,877.0
Total Workyears	288.0	318.1	318.1	0.0

Program Project Description:

The EPA's Office of Inspector General provides audit, program evaluation, and investigative services and products that fulfill the requirements of the Inspector General Act, as amended, by identifying fraud, waste, and abuse in agency, grantee and contractor operations, and by promoting economy, efficiency, and effectiveness in the operations of the agency's Superfund program. The OIG activities add value, promote transparency and enhance public trust by providing the agency, the public, and Congress with independent analyses and recommendations that help EPA management resolve risks and challenges, achieve opportunities for savings, and implement actions for safeguarding the EPA's resources and accomplishing the EPA's environmental goals. The OIG activities also prevent and detect fraud in the EPA's programs and operations, including financial fraud, laboratory fraud, and cybercrimes. The OIG consistently provides a significant positive return on investment to the public in the form of recommendations for improvements in the delivery of the EPA's mission, program efficiency and integrity, reduction in operational and environmental risks, costs savings, and recoveries.

FY 2017 Activities and Performance Plan:

The EPA's OIG will assist the agency in its efforts to reduce environmental and human health risks by making recommendations to improve Superfund program operations, save taxpayer dollars, and resolve previously identified major management challenges and internal control weaknesses. In FY 2017, the OIG will continue focusing on areas associated with risk, fraud, waste, and cybercrimes, and make recommendations that improve operating efficiency, transparency, secured and trustworthy systems, and the cost effective attainment of the EPA's strategic goals and positive environmental impacts related to the Superfund program.

The OIG plans will be implemented through audits, evaluations, inspections investigations, and follow-up reviews in compliance with the Inspector General Act (as amended), applicable

professional standards of the U. S. Comptroller General, and the Quality Standards for Federal Offices of Inspector General of the Council of Inspectors General on Integrity and Efficiency. The OIG conducts the following types of audits: (1) program performance audits, including those focused on the award and administration of grants and contracts; (2) financial audits of grantees and contractors; (3) efficiency audits; and (4) information resources management audits. In addition, program evaluations will be conducted in the areas of the EPA's mission objectives for improving and protecting the environment and public health via reviews of Superfund and other land issues. The OIG also will conduct investigations of, and seek prosecution of criminal activity and serious misconduct in the EPA's Superfund program and operations that undermine agency integrity, the public trust, and create imminent environmental risks, as well as seek civil judgments to obtain recovery and restitution of financial losses. Areas of investigative emphasis include financial fraud, program, employee and system integrity, and theft of intellectual or sensitive data.

The OIG continues to balance its workload with the capacity of a smaller workforce while meeting statutorily mandated requirements and delivering a strong return on taxpayer investment.

Audits and Evaluations

The OIG audits and program evaluations and inspections related to Superfund will identify program and management risks and determine if the EPA is efficiently and effectively reducing human health risks; taking effective enforcement actions; cleaning up hazardous waste; managing waste, restoring previously polluted sites to appropriate uses; and ensuring long-term stewardship of polluted sites. The OIG assignments will include: (1) assessing the adequacy of internal controls in the EPA and its grantees and contractors to protect resources and achieve program results; (2) project management to ensure that the EPA and its grantees and contractors have clear plans and accountability for performance progress; (3) enforcement to evaluate whether there is consistent, adequate and appropriate application of the laws and regulations across jurisdictions with coordination between federal, state, and local law enforcement activities; and (4) grants and contracts to verify that such awards are made based upon uniform risk assessment and capacity to account and perform, and that grantees and contractors perform with integrity and value.

Prior audits and evaluations of the Superfund program have identified numerous barriers to implementing effective resource management and program improvements. Therefore, the OIG will concentrate its resources on efforts in the following assignment areas:

- Human and Environmental Exposure from Superfund Site Contaminants;
- Impact of using Special Account Funds on cleaning up Superfund sites;
- Optimization of Superfund financed Pump and Treat Systems;
- Siting renewable energy on potentially contaminated land and mine sites;
- The EPA's progress in ensuring private party Superfund liabilities are adequately covered by sufficient financial assurance mechanisms;
- Determine if EPA has demonstrated that imminent and substantial environmental threats to public health have been addressed under the Superfund removal program;
- Superfund portion of the EPA's financial statement and FISMA audit;
- Sampling, monitoring, communication and opportunities for cleanup efficiencies;

- Review of the EPA’s Working Capital Fund background investigations services; and
- Oversight of Superfund State Contract for Remedial Activities.

The OIG also will evaluate ways to minimize fraud, waste, and abuse, with emphasis on identifying opportunities for cost savings and reducing risk of resource loss, while maximizing results achieved from Superfund contracts and assistance agreements.

Investigations

The Office of Investigations (OI) mission is to conduct criminal, civil, and administrative investigations of fraud, waste and abuse and serious misconduct within the EPA’s Superfund program. The OI investigations are worked in conjunction with the Department of Justice for criminal and civil litigation or the EPA’s management for administrative action. OI currently investigates the following: 1) fraudulent practices in awarding, performing, and paying Superfund contracts, grants, or other assistance agreements; 2) program fraud or other acts that undermine the integrity of, or confidence in the Superfund program; 3) laboratory fraud relating to data, and false claims for erroneous laboratory results that undermine the basis for decision-making, regulatory compliance, or enforcement actions in the Superfund program; 4) threats directed against Superfund program employees or facilities; 5) criminal conduct or serious administrative misconduct by EPA employees involved in the Superfund program; and 6) intrusions into and attacks against the EPA’s network supporting superfund program data, as well as incidents of computer misuse and theft of intellectual property or sensitive/proprietary Superfund data. Special attention will be directed towards identifying the tactics, techniques, and procedures that are being utilized by cyber criminals to obtain Superfund program information.

Finally, OI develops recommendations or “lessons learned” for the EPA’s management which works on the Superfund program to reduce the agency’s vulnerability to criminal activity. The OI’s investigations provide measurable results wherein recovery and restitution of financial losses are achieved and administrative actions are taken to prevent those involved from further participation in any Superfund program or operation.

Follow-up and Policy/Regulatory Analysis

To further promote economy, efficiency and effectiveness, the OIG will conduct follow-up reviews of agency responsiveness to the OIG recommendations for the Superfund program to determine if appropriate actions have been taken, and intended improvements have been achieved. This process will keep Congress and EPA leadership informed of accomplishments, apprised of needed corrective actions, and will facilitate greater accountability for results from the OIG operations.

Additionally, as directed by the IG Act (as amended), the OIG will review and analyze proposed and existing policies, rules, regulations and legislation pertaining to the Superfund program to identify vulnerability to waste, fraud and abuse. These reviews also consider possible duplication, gaps or conflicts with existing authority, leading to recommendations for improvements in their structure, content and application.

Performance Targets:

Work under this program also supports performance measures in the Audits, Evaluations, and Investigations program project under the IG appropriation. These measures can be found in the Eight-Year Performance Array in the Program Performance and Assessment section.

FY 2017 Change from the FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$69.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$786.0) This realignment reflects a shift in resources from the Superfund account to the IG Management account to maximize the flexibility of resources for prioritizing audit activities.
- (-\$444.0) This program change reflects anticipation of savings from business process changes and the use of strategic sourcing for support required for the work of the OIG.

Statutory Authority:

Inspector General Act, as amended; Inspector General Reform Act; Comprehensive Environmental Response, Compensation, and Liability Act § 111(k).

Inspector General Reform Act:

The following information is provided pursuant to the requirements of the Inspector General Reform Act:

- the aggregate budget request from the Inspector General for the operations of the OIG is \$60.3 million (\$51.5 million Inspector General; \$8.8 million Superfund Transfer);
- the aggregate President's budget for the operations of the OIG is \$60.3 million (\$51.5 million Inspector General; \$8.8 million Superfund Transfer);
- the portion of the aggregate President's Budget needed for training is \$700 thousand (\$574 thousand Inspector General; \$126 thousand Superfund Transfer);
- the portion of the aggregate enacted budget needed to support the Council of the Inspectors General on Integrity and Efficiency is \$179 thousand (\$143.2 thousand Inspector General; \$35.8 thousand Superfund Transfer).

"I certify as the Inspector General of the Environmental Protection Agency that the amount I have requested for training satisfies all OIG training needs for FY 2017".

Program Area: Compliance

Compliance Monitoring

Program Area: Compliance

Goal: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

Objective(s): Enforce Environmental Laws to Achieve Compliance

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Inland Oil Spill Programs	\$136.3	\$139.0	\$160.0	\$21.0
Environmental Program & Management	\$103,440.4	\$101,665.0	\$111,270.0	\$9,605.0
<i>Hazardous Substance Superfund</i>	<i>\$1,001.7</i>	<i>\$995.0</i>	<i>\$1,099.0</i>	<i>\$104.0</i>
Total Budget Authority / Obligations	\$104,578.4	\$102,799.0	\$112,529.0	\$9,730.0
Total Workyears	508.8	539.6	539.6	0.0

Program Project Description:

The EPA's Compliance Monitoring program's goal is to assure compliance with the nation's environmental laws and protect human health and the environment through inspections and other compliance monitoring activities. Compliance monitoring is comprised of all activities that determine whether regulated entities are in compliance with applicable laws, regulations, permit conditions, and settlement agreements. Compliance monitoring activities include data collection, analysis, data quality review, on and off-site compliance inspections, evaluations, investigations, and reviews of facility records and monitoring reports. The program conducts these activities to determine whether conditions that exist at Superfund sites may present imminent and substantial endangerment to human health or the environment. The program also verifies whether or not regulated sites are in compliance with environmental laws and regulations. The program focuses on providing information and system support for monitoring compliance with Superfund-related environmental regulations and contaminated site clean-up agreements. The program also ensures the security and integrity of its compliance information systems.

FY 2017 Activities and Performance Plan:

Superfund-related compliance monitoring activities are mainly reported and tracked through the agency's Integrated Compliance Information System (ICIS). In FY 2017, the Enforcement and Compliance Assurance program will continue to focus on making improvements to ICIS to support customers (e.g., the EPA, states, tribes, and local agencies) use of and access to the system for reporting and retrieval of regulatory requirements of the federal Enforcement and Compliance programs. In FY 2017, the program will continue to complete ongoing and routine enhancements to ICIS and to improve reporting to the public on government and facility compliance. The EPA will continue to ensure the security and integrity of these systems and will use ICIS data to support Superfund-related regulatory enforcement program activities. In FY 2017, the Superfund portion of this program for ICIS-related work is \$190 thousand.

In FY 2017, the EPA also will continue to make Superfund-related compliance monitoring information available in the Enforcement and Compliance History Online (ECHO) data marts, its integrated data mart repository, and where appropriate, to the public through the ECHO website.¹ This site provides communities with interactive access to information on compliance status. The EPA will continue to develop additional tools and obtain new data sets (e.g., geospatial) for public use.

Performance Targets:

Work under this program also supports performance results in the Compliance Monitoring program under the Environmental Programs and Management appropriation. These measure also can be found in the Eight-Year Performance Array in the Program Performance and Assessment section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$104.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

¹ For more information, refer to: <http://www.epa-echo.gov/echo>.

Program Area: Enforcement

Environmental Justice

Program Area: Enforcement

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Promote Sustainable and Livable Communities

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$7,123.5	\$6,737.0	\$15,291.0	\$8,554.0
<i>Hazardous Substance Superfund</i>	<i>\$605.1</i>	<i>\$545.0</i>	<i>\$612.0</i>	<i>\$67.0</i>
Total Budget Authority / Obligations	\$7,728.6	\$7,282.0	\$15,903.0	\$8,621.0
Total Workyears	32.8	40.3	40.3	0.0

Program Project Description:

The EPA is committed to fostering public health and sustainability in communities disproportionately burdened by pollution by integrating and addressing issues of environmental justice (EJ) in our programs and policies as part of our day-to-day business. Implementation of the EPA's strategic plan on environmental justice, Plan EJ 2014 and its successor the EJ 2020 Action Agenda,^{2,3} is a key component to this commitment. The EPA's Environmental Justice program supports the completion and then implementation of the EJ 2020 Action Agenda⁴ which are the focal points for addressing environmental justice issues, promoting accountability, fostering agency action on critical environmental justice issues, and encouraging the community's voice.

The EJ program conducts outreach and provides technical assistance that empowers low income and minority communities to take action to protect themselves from environmental harm. The Superfund portion of the program focuses on issues that affect communities at or near Superfund sites. The EJ program complements and enhances the agency's community outreach and other work done under the Superfund program at affected sites. The agency also supports state and Tribal environmental justice programs and conducts outreach and technical assistance to states, local governments, and other stakeholders on environmental justice issues.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to implement environmental justice activities in support of the Superfund program consistent with the vision and commitments outlined in the agency's FY 2014-2018 Strategic Plan Cross-Cutting Fundamental Strategy for Working to Make a Visible Difference in Communities. In FY 2017, the EJ program will continue to promote the active engagement of community groups, other federal agencies, states, local governments, and Tribal governments to recognize, support, and advance environmental protection and public health for overburdened communities at or near Superfund sites. The EJ program will guide the EPA's efforts to empower communities to protect themselves from environmental harms. These efforts help

² For additional information, refer to: <http://epa.gov/environmentaljustice/plan-ej/index.html>.

³ For additional information, refer to: <http://epa.gov/environmentaljustice/ej2020/index.html>.

⁴ For additional information, refer to: <http://epa.gov/environmentaljustice/interagency/index.html>.

build healthy and sustainable communities through technical assistance, enabling overburdened and disadvantaged groups to participate in the new green economy.

In FY 2017, the EJ program will continue to partner with other programs within the agency to create scientific analytical methods, a legal foundation, and public engagement practices that enable the incorporation of environmental justice considerations in the EPA's regulatory and policy decisions. Finally, the EJ program will continue to support the agency's efforts to strengthen internal mechanisms to integrate environmental justice into our day to day activities including communications, training, performance management, and accountability measures.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$39.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$28.0) This program change reflects an increase in funds to support the agency's efforts to strengthen internal mechanisms to integrate environmental justice into our day to day activities which include communications, training, performance management, and accountability measures.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended.

Superfund: Enforcement

Program Area: Enforcement

Goal: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

Objective(s): Enforce Environmental Laws to Achieve Compliance

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Hazardous Substance Superfund</i>	\$154,870.8	\$150,628.0	\$158,619.0	\$7,991.0
Total Budget Authority / Obligations	\$154,870.8	\$150,628.0	\$158,619.0	\$7,991.0
Total Workyears	757.9	771.3	771.3	0.0

Program Project Description:

The EPA’s Superfund Enforcement program protects communities by ensuring that responsible parties conduct cleanups, preserving federal dollars for sites where there are no viable contributing parties. The EPA’s Superfund Enforcement program ensures prompt site cleanup and uses an “enforcement first” approach that maximizes the participation of liable and viable parties in performing and paying for cleanups. In both the remedial and removal programs, the Superfund Enforcement program initiates civil, judicial, and administrative site remediation cases. The Superfund Enforcement program also provides litigation, legal, and technical enforcement support to the Superfund program and the Department of Justice (DOJ) on Superfund enforcement actions and emerging issues. The Superfund Enforcement program develops waste cleanup enforcement policies and provides guidance and tools that clarify potential environmental cleanup liability, with specific attention to the cleanup, reuse and revitalization of contaminated properties. In addition, the Superfund Enforcement program ensures that responsible parties cleanup sites to reduce direct human exposure to hazardous substances. This ensures that the program provides long-term human health protections which ultimately make contaminated properties available for reuse.

The EPA negotiates cleanup agreements with Potentially Responsible Parties (PRPs) at hazardous waste sites and, where negotiations fail, either takes enforcement actions to require cleanup or seek cost recovery if the EPA expends Superfund appropriated dollars to remediate the sites. The DOJ supports the EPA’s Superfund Enforcement program through negotiations and judicial actions to compel PRP cleanup and to recover appropriated monies spent on cleanup. In tandem with this approach, the EPA has implemented various reforms to increase fairness, reduce transaction costs, promote economic development, and make sites available for appropriate reuse. The EPA also works to ensure that required legally enforceable institutional controls and financial assurance requirements are in place at Superfund sites to ensure the long-term protectiveness of Superfund cleanup remedies.

The agency promotes the “polluter pays” principle, cleaning up more sites and preserving appropriated dollars for sites without viable PRPs. Since the inception of the program, the cumulative value of private party commitments for cleanup is over \$41.2 billion (\$34.4 billion for cleanup work and \$6.8 billion in cost recovery).

FY 2017 Activities and Performance Plan:

In FY 2017, the Superfund Enforcement program will ensure PRP participation in cleanups while promoting fairness in the enforcement process and will continue to maximize cost recovery from PRPs when the EPA expends appropriated funds. The agency's goal is to maximize PRP participation by reaching a settlement or taking an enforcement action by the time a remedial action starts for at least 99 percent of non-federal Superfund sites that have viable, liable parties. In FY 2015, the EPA reached a settlement or took an enforcement action at 100 percent of non-federal Superfund sites with viable, liable parties.⁵ In FY 2017, the agency will continue efforts to accelerate negotiations of remedial design/remedial action cleanup agreements and will continue to focus efforts on negotiating removal agreements at contaminated properties to address contamination impacting local communities.

The agency also seeks to ensure trust fund stewardship through cost recovery efforts from responsible parties in order to recover response costs that have been expended from the Superfund Trust Fund. In FY 2017, in an effort to maximize the efficient use of Superfund enforcement appropriated resources, the EPA will continue to focus cost recovery efforts on those cases with unresolved past costs greater than \$500 thousand.

Special Accounts

In FY 2017, the agency will continue its efforts to establish and maximize the effectiveness of special accounts to facilitate cleanup. Special accounts save taxpayers significant resources by using funds received in settlements with PRPs to clean up the specific Superfund sites that were the subject of the settlement agreement. Special accounts provide needed cleanup dollars at many sites that otherwise may not have received funding absent the EPA's enforcement efforts. In FY 2015, the EPA created 52 special accounts, collected \$1,778.8 million for response work and accrued \$16.9 million in interest for a total of \$1,796 million in new funding. The agency disbursed or obligated \$259.4 million for response work (excluding reclassifications). The EPA also closed 32 special accounts and transferred \$1 million from special account receipts into the general part of the Superfund Trust Fund which was made available for the FY 2016 appropriation by Congress, reducing the amount of funding needing to be transferred from general revenues. Since 1989, the EPA has created 1,308 special accounts, collected more than \$6.3 billion for response work and accrued \$445.2 million in interest for a total of \$6.8 billion. The agency has disbursed or obligated \$3.3 billion for response work and plans have been developed to guide the future use of the remaining funds. The EPA has closed 283 special accounts and transferred \$27.8 million from special accounts into the general part of the Superfund Trust Fund.

Working with DOJ

In FY 2017, the agency proposes to provide the Department of Justice with \$21.8 million through an Interagency Agreement. Funding will provide support for the EPA's Superfund Enforcement program through such actions as negotiating consent decrees with PRPs, preparing judicial actions

⁵ For additional information, refer to: <http://www.epa.gov/enforcement/enforcement-annual-results-fiscal-year-fy-2015>.

to compel PRP cleanup, and litigating to recover monies spent in cleaning up contaminated sites. The EPA's Superfund Enforcement program is responsible for case development and preparation, referral to the DOJ and post-filing actions, and for providing case and cost documentation support for the docket of current cases with the DOJ. The program also ensures that the EPA meets cost recovery statute of limitation deadlines, resolves cases, issues bills for oversight, and makes collections in a timely manner.

By pursuing recovery of these costs, the program promotes the principle that polluters should either perform or pay for cleanups. This approach preserves appropriated resources to address contaminated sites where there are no viable or liable PRPs. In FY 2015, the EPA and the DOJ reached the largest recovery in history for the cleanup of environmental contamination in a settlement with Anadarko Petroleum Corporation totaling \$5.15 billion plus interest to be paid to the litigation trust beneficiaries and tort claimants. Of this, more than \$1.6 billion was deposited by the EPA in either site-specific special accounts (\$1.4 billion) or the Superfund Trust Fund (\$242 million) for past and future cleanup work associated with numerous EPA-lead sites in multiple states across the country and in and near Navajo Nation territory in the southwestern United States.

Return on Investment

During the past ten years, the Superfund civil enforcement investment has resulted in an average return of 7 dollars for every one appropriated dollar invested in the program. The total commitments obtained from responsible parties over that ten year period reached almost \$11 billion. In FY 2015, the Superfund Enforcement program secured private party commitments exceeding \$2.59 million. Of this amount, PRPs committed to perform future response work with an estimated value of more than \$1.98 million and agreed to reimburse the agency for \$512 million in past costs and \$106 million in oversight costs.

Cost Recovery Support

During FY 2017, the agency will continue to perform the financial management aspects of Superfund cost recovery and the collection of related debt to the federal government. The EPA will continue to calculate indirect cost and annual allocation rates to be applied to direct costs incurred by the EPA for site cleanup. These efforts include tracking and managing Superfund delinquent debt, maintaining the Superfund Cost Recovery Package Imaging and On-Line System (SCORPIOS), and using SCORPIOS Paperless Image and Document Enabled Reports (SPIDERS) to prepare cost documentation packages. The EPA's Enforcement program will continue to refine and streamline the cost documentation process to gain further efficiencies, and provide the Department of Justice case support for Superfund sites via SPIDER packages. The EPA's financial, programmatic, and legal offices will continue to maintain the accounting and billing of Superfund oversight costs attributable to responsible parties. These costs represent the EPA's cost of overseeing Superfund site cleanup efforts by responsible parties as stipulated in the terms of settlement agreements. In FY 2015, the agency collected \$697.1 million in cost recoveries, of which \$274.1 million were returned to the Superfund Trust Fund and \$423 million were deposited in site-specific, interest bearing special accounts.

Performance Targets:

Measure	(078) Percentage of all Superfund statute of limitations cases addressed at sites with unaddressed past Superfund costs equal to or greater than \$500,000.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	100	100	100	100	100	100	100	100	Percent
Actual	100	100	100	100	100	100			

Measure	(285) Percentage of Superfund sites having viable, liable responsible parties other than the federal government where EPA reaches a settlement or takes an enforcement action before starting a remedial action.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	95	95	99	99	99	99	99	99	Percent
Actual	98	100	100	100	100	100			

Measure	(417) Millions of cubic yards of contaminated soil and groundwater media EPA has obtained commitments to clean up as a result of concluded CERCLA and RCRA corrective action enforcement actions.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			300	275	225	200	200	200	Million Cubic Yards
Actual			400	750	900	70			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$2,929.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$5,062.0) This program change reflects an increase in funding for the EPA's and DOJ's Superfund Enforcement program to initiate civil, judicial, and administrative site remediation cases and continue support of PRPs efforts to cleanup Superfund sites. These increased funds will help the EPA to ensure that responsible parties perform cleanup actions at sites where they are liable and not shift cleanup costs to the American taxpayer.

Statutory Authority:

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

Superfund: Federal Facilities Enforcement

Program Area: Enforcement

Goal: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

Objective(s): Enforce Environmental Laws to Achieve Compliance

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Hazardous Substance Superfund</i>	\$6,730.0	\$6,989.0	\$7,452.0	\$463.0
Total Budget Authority / Obligations	\$6,730.0	\$6,989.0	\$7,452.0	\$463.0
Total Workyears	38.3	40.9	40.9	0.0

Program Project Description:

The EPA’s Superfund Federal Facilities Enforcement program ensures that sites with federal entities performing Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) responses and CERCLA sites with federal ownership are monitored and appropriate enforcement responses are pursued. After years of service and operation, some federal facilities contain environmental contamination such as hazardous wastes, unexploded ordnance, radioactive wastes, or other toxic substances. To enable the cleanup and reuse of such sites, the Federal Facilities Enforcement program identifies and coordinates creative solutions that ensure the integrity of cleanups that protect both human health and the environment. These enforcement solutions help restore facilities so they can once again serve an important role in the economy and welfare of local communities and our country.

FY 2017 Activities and Performance Plan:

Pursuant to CERCLA Section 120, the EPA must enter into Interagency Agreements, also commonly referred to as Federal Facility Agreements (FFAs), with responsible federal entities to ensure protective cleanup of their National Priorities List (NPL) sites at a timely pace. The agreements provide that the EPA oversee the cleanups to ensure that they protect public health and the environment. These FFAs govern cleanups at 174 federal facility Superfund sites, which include many of the Nation’s largest and most complex cleanup projects with total annual costs between \$4.0 billion and \$7.0 billion.

There remains only two agreements to be signed – at the Army’s Redstone Arsenal in Alabama and the 700 South 1600 East PCE Plume site near the George E. Wahlen Department of Veterans Affairs (VA) Medical Center in Salt Lake City, Utah. Negotiations have concluded at the VA site, which was listed by the EPA on the National Priority List in 2013, and signature of the FFA is expected in FY 2016. In FY 2015, the EPA negotiated enforceable agreements to address contamination at several other cleanup locations, including at Camp Minden, Louisiana, and the National Aeronautics and Space Administration’s Ames Research Center in Palo Alto, California. The Camp Minden site contains over 15 million pounds of unsecured and improperly stored M6

propellant among other explosive materials.⁶ Explosive threats remain due to cleanup delays as a result of flooding of the Mississippi River preventing the shipping of the burn chamber. The EPA has entered into a settlement with the Louisiana Military Department (LMD) and U.S. Army for the performance and funding of the work. The EPA has approved LMD's workplan and expects work will proceed soon.

Priority areas for FY 2017 include ensuring that: 1) all federal facility sites on the NPL have FFAs, which provide enforceable schedules for the progression of the entire cleanup; 2) all FFAs are adequately monitored for compliance; and 3) any federal cleanup sites on the NPL that are transferred to new owners are transferred in an environmentally responsible manner.

The EPA monitors progress (milestones) in existing FFAs, resolves disputes, takes appropriate enforcement actions to address noncompliance, and oversees remedial work being conducted at federal facilities. The EPA works to ensure that legally enforceable institutional controls (protective procedures and policies that reduce risk associated with contamination left in place) and five-year review requirements are in place at Superfund sites to ensure the long-term protectiveness of cleanup actions. In FY 2017, the EPA also will continue its work with affected agencies to resolve outstanding compliance and enforcement policy issues relating to the cleanup of federal facilities. The EPA evaluates and utilizes all available enforcement authorities in its toolbox to ensure that the appropriate mechanism is used and that federal entities undertake necessary cleanup work at their contaminated sites.

The Superfund Federal Facilities Enforcement program collaborates closely with the EPA's Superfund Federal Facilities program to support their strategic programmatic goals to clean up federal contaminated sites and make them safer for communities and, whenever possible, available for other economically productive uses. In addition, it is critically important, especially in light of scarce resources, that the EPA continually assesses priorities, leverages resources, and embraces new approaches, such as work sharing across organizational lines that can help achieve enforcement goals more efficiently and effectively. The Superfund Federal Facilities Enforcement program will continue to focus its resources on the highest priority sites and in those areas where the largest potential return is realized on enforcement dollars.

Performance Targets:

Work under this program also supports performance results in the Superfund Enforcement program. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$463.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.

⁶ For additional information, refer to: <http://www2.epa.gov/la/camp-minden>.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended, §120.

Criminal Enforcement

Program Area: Enforcement

Goal: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

Objective(s): Enforce Environmental Laws to Achieve Compliance

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$47,853.0	\$46,313.0	\$52,572.0	\$6,259.0
<i>Hazardous Substance Superfund</i>	\$6,996.9	\$7,124.0	\$7,824.0	\$700.0
Total Budget Authority / Obligations	\$54,849.9	\$53,437.0	\$60,396.0	\$6,959.0
Total Workyears	251.8	268.9	267.9	-1.0

Program Project Description:

The EPA's Criminal Enforcement program investigates and helps prosecute violations of Superfund and Superfund-related laws through targeted investigation of criminal conduct, committed by individual and corporate defendants, that threatens public health and the environment. A strong enforcement program is a key component of an effective, results-focused environmental compliance strategy. Successful, visible prosecutions deter other potential violators, eliminate the incentive for companies to "pay to pollute," and help ensure that businesses that follow the rules do not face unfair competition from businesses that break the rules. Criminal enforcement also sends a strong deterrence message in economically disadvantaged communities and traditionally industrial areas, where residents may have suffered disproportionate pollution impacts, in part due to criminal activities.

The EPA's criminal enforcement agents (Special Agents) investigate violations of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and associated violations of Title 18 of the United States Code such as fraud, conspiracy, false statements, and obstruction of justice. Special Agents provide prosecutorial support, evaluate leads, interview witnesses, serve and support search warrants, and review documentary evidence, including data from prior inspections and enforcement actions. They are assisted by forensic scientists, attorneys, technicians, engineers, and other experts. Special Agents also assist in plea negotiations, and in planning sentencing conditions that require remediation, environmental management systems, or other projects that improve environmental conditions.

The EPA's Special Agents also participate in state and local task forces, and attend specialized training courses at the Federal Law Enforcement Training Center along with other federal, state, and local law enforcement officials. This training further develops the environmental expertise of our state, local, and Tribal partners, enabling them to better protect their communities and offer valuable leads to the EPA's investigators.⁷

⁷ For additional information, refer to: <http://www2.epa.gov/enforcement/criminal-enforcement>.

The EPA's criminal enforcement attorneys provide Superfund legal and policy support for all of the program's responsibilities, including forensics and expert witness preparation, information law, and personnel law to ensure that program activities are carried out in accordance with legal requirements and agency's policies. These efforts support environmental crimes prosecutions primarily by the United States Attorneys and the Department of Justice's Environmental Crimes Section, and occasionally by state, Tribal, and local prosecutors. In FY 2015, the conviction rate for criminal defendants was 92 percent.⁸

FY 2017 Activities and Performance Plan:

Successful prosecutions are the result of careful collection and expert evidence analysis. In FY 2017, the Criminal Enforcement program will continue to emphasize cases with significant human health, environmental, and deterrent impacts, while balancing its overall case load across all environmental statutes. The agency continually embrace new approaches that can help achieve our goals more efficiently and effectively. The FY 2017 request will allow the Criminal Enforcement program to continue its critical criminal investigation and enforcement work by maintaining existing personnel and expertise. Additionally, these resources will be used to modernize the Criminal Case Reporting System (CCRS) which is over nine years old and is at the end of its service life. The new system will have increased capability for data analytics and also provide a better data-sharing capability with other agency data systems.

The EPA's Criminal Enforcement program is committed to fair and consistent enforcement of federal laws and regulations and has the flexibility to respond to region-specific environmental problems. In FY 2017, criminal enforcement will continue to oversee all investigations to ensure compliance with program priorities, and conduct regular "docket reviews" (detailed reviews of all open investigations in each Regional Office) to ensure consistency with investigatory discretion guidance and enforcement priorities.

In FY 2017, the Criminal Enforcement program will continue to investigate and assist with prosecuting CERCLA related cases with significant environmental, human health, and deterrence impacts. The Criminal Enforcement program continues to "tier" significant CERCLA cases based upon categories of human health and environmental impacts (e.g., death, serious injury, human exposure, required remediation), release and discharge characteristics (e.g., hazardous or toxic pollutants, continuing violations), and subject characteristics (e.g., national corporation, recidivist violators).

In FY 2017, the program also will pursue leads reported by the public as appropriate through the tips and complaints link on the EPA's website, and will continue to use the fugitive website.⁹ The EPA's fugitive website enlists the public and law enforcement agencies help in apprehending defendants who have fled the country, are in hiding to avoid prosecution for alleged environmental crimes, or are in hiding to avoid sentencing for crimes for which they have been found guilty.

⁸ For additional information, refer to: <http://www.epa.gov/enforcement/enforcement-annual-results-fiscal-year-fy-2015>.

⁹ For additional information, refer to: <http://www2.epa.gov/enforcement/epa-fugitives>.

Performance Targets:

Work under this program also supports performance results in the Criminal Enforcement program under Environmental Programs and Management appropriation. These measures can be found in the Eight-Year Performance Array in the Program Performance and Assessment section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$413.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$287.0) This program change reflects an increase in funds to continue effectively investigate complex criminal and high priority Superfund enforcement cases. This is done through targeted and analytically driven enforcement activities, supported by analytical and comparative analysis software and variety of data sources.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Emergency Planning and Community Right-To-Know Act; Pollution Prosecution Act; Title 18 General Federal Crimes (e.g., false statements, conspiracy); Power of Environmental Protection Agency (18 U.S.C. 3063); Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA’s organic statute).

Forensics Support

Program Area: Enforcement

Goal: Protecting Human Health and the Environment by Enforcing Laws and Assuring
Compliance

Objective(s): Enforce Environmental Laws to Achieve Compliance

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Science & Technology	\$14,151.1	\$13,669.0	\$14,608.0	\$939.0
<i>Hazardous Substance Superfund</i>	<i>\$2,439.5</i>	<i>\$1,089.0</i>	<i>\$1,150.0</i>	<i>\$61.0</i>
Total Budget Authority / Obligations	\$16,590.6	\$14,758.0	\$15,758.0	\$1,000.0
Total Workyears	81.0	80.3	80.3	0.0

Program Project Description:

The Forensics Support program provides expert scientific and technical support for the nation's most complex Superfund civil and criminal enforcement cases, as well as technical expertise for agency compliance efforts. The NEIC is an environmental forensic center accredited for both laboratory and field sampling operations that generate environmental data for law enforcement purposes. It is fully accredited under International Standards Organization 17025, the main standard used by testing and calibration laboratories, as recommended by the National Academy of Sciences.¹⁰ The work of the EPA's National Enforcement Investigations Center (NEIC) is critical to determining non-compliance and building viable enforcement cases. The NEIC maintains a sophisticated chemistry laboratory and a corps of highly trained inspectors and scientists with expertise across media. The NEIC works closely with the EPA's Criminal Investigation Division to provide technical support (e.g., sampling, analysis, consultation and testimony) to criminal investigations. The NEIC also works closely with the EPA's Headquarters and Regional Offices to provide technical assistance, consultation, on-site inspection, investigation, and case resolution services in support of the agency's Superfund Enforcement program.

FY 2017 Activities and Performance Plan:

In FY 2017, the NEIC will continue to support the agency's national enforcement priorities and support the technical aspects of criminal investigations. In order to stay at the forefront of environmental enforcement, the NEIC will continue to apply advanced analytical strategies to identify sources of pollution and potentially responsible parties at Superfund and other waste sites. In response to Superfund case needs, the NEIC will conduct applied research and development to identify and deploy new capabilities, and to test and/or enhance existing methods and techniques involving environmental measurement as part of forensic investigations. These developmental areas include the Geospatial Measurement of Air Pollution (GMAP) vehicle which can measure

¹⁰ Strengthening Forensic Science in the United States: A Path Forward, National Academy of Sciences, 2009, available at http://www.nap.edu/catalog.php?record_id=12589.

and map in real time toxic air pollutants associated with contaminated sites such as landfills or in the ambient air in environmental justice communities.

In FY 2017, the agency will continue its high quality forensics support work by supporting existing personnel and necessary maintenance and repair for the NEIC laboratory. These resources are critical to fund essential support costs associated with maintaining the agency's analytical instrument service contracts, minimizing the downtime resulting from instrument failures. Specifically, these resources would allow the EPA to replace aging analytical instruments, acquire new measurement technologies, and allow the NEIC to continue to function under the rigorous ISO 17025 requirements for environmental data measurements. These requirements include internal and external auditing, and the application of Lean principles to refine and improve operations. Additionally, this request will allow the NEIC to continue to participate in the agency's efforts to consolidate its laboratories as part of the government-wide initiative to improve space and resource efficiency.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$50.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$11.0) This program change reflects an increase for preventative maintenance and repair costs for the forensics laboratory.

Statutory Authority:

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); Emergency Planning and Community Right-to-Know Act (EPCRA); Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Program Area: Homeland Security

Homeland Security: Preparedness, Response, and Recovery

Program Area: Homeland Security

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Restore Land

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Science & Technology	\$27,005.7	\$26,054.0	\$25,696.0	(\$358.0)
<i>Hazardous Substance Superfund</i>	<i>\$39,405.1</i>	<i>\$35,276.0</i>	<i>\$31,503.0</i>	<i>(\$3,773.0)</i>
Total Budget Authority / Obligations	\$66,410.8	\$61,330.0	\$57,199.0	(\$4,131.0)
Total Workyears	128.1	127.4	130.0	2.6

Program Project Description:

The EPA's Homeland Security Preparedness, Response, and Recovery program develops and maintains an agencywide capability to respond to large-scale catastrophic incidents with an emphasis on those involving chemical, biological, radiological, and nuclear (CBRN) agents. To maintain this capability, the EPA maintains a highly skilled, trained, and equipped response workforce that has the capability to respond to simultaneous incidents as well as threats involving CBRN substances.

The program assists with multi-media training and exercise development/implementation, for responders, which establish and sustain coordination with states, local communities, Tribes, and other federal officials. The program also provides technical assistance to other federal agencies, including the Department of Homeland Security (DHS), the Department of Defense (DoD), and the Department of Health and Human Services (HHS) with expertise in environmental characterization, decontamination, and waste disposal methods. It also operates a national environmental laboratory for chemical warfare agents and biological threats and implements the EPA's National Approach to Response (NAR).

The program builds upon the EPA's long standing Superfund Emergency Response and Removal program, which cleans up oil and hazardous substance releases. The EPA's Homeland Security program has valuable expertise that assists the response, prevention, and preparedness activities associated with the potential release of chemical, biological, radiological, and nuclear (CBRN) agents and large-scale catastrophic incidents in an all hazards approach to response. The program maintains the agency's operational readiness for all phases of consequence management following a CBRN incident, specifically environmental characterization and decontamination and laboratory analyses. In addition, the program provides technical assistance support and outreach to industry, states, tribes, and local communities as part of the agency's effort to ensure national safety and security for chemical and oil incidents. This program also is supported by the Homeland Security Research Program (HSRP) in EPA's Research and Development program which develops and

evaluates environmental sampling, analysis, and human health risk assessment methods. The EPA's capabilities and supporting research, implemented as a comprehensive all-hazards approach to emergency response, is a cornerstone of national preparedness and is an essential element of national resiliency.

The agency Homeland Security program implements a broad range of activities for a variety of internal and multi-agency efforts consistent with DHS' National Response Framework. As mandated in Homeland Security Presidential Directives (HSPDs) #5, #8, #9, #10, and #22,¹¹ the agency leads or supports many aspects of preparing for and responding to a nationally significant incident involving possible CBRN agents. Other federal agencies, including DHS, DoD, and HHS rely upon the EPA's unique and critical environmental response capability, assets, laboratory capabilities, and decontamination expertise for CBRN agents, and look to the EPA to conduct the following:

- Sustain and operate national environmental laboratory capability and capacity for chemical warfare agents and biological threats;
- Provide expertise on environmental characterization, decontamination, and waste disposal methods following the release of a CBRN agent;
- Provide technical support and expertise during a response in evaluating environmental and human health risks including health risks associated with the release of CBRN agents; and
- Maintain the agency's own internal response capabilities, as well as coordinated federal, state, and local emergency response efforts through training, exercises, specialized field assets, and pre-deployment of agency assets to national incidents.

The agency's Consequence Management Advisory Division (CMAD) serves as a federal technical resource for environmental consequence management activities including decontamination of building infrastructures and environmental media, site characterization, clearance, and waste management. The Environmental Response Team (ERT) will provide required health and safety and response readiness training to federal, state, local, and Tribal responders. The Environmental Response Laboratory Network (ERLN) resources focus on improving national environmental laboratory capabilities and capacities to be better prepared to analyze the high volume of environmental CBRN samples expected during national emergencies. This program helps the EPA have the capacity for understanding and responding to complex CBRN incidents in a reasonable time frame as well as have a basic level of institutional expertise for advising removal actions. To meet this challenge, the EPA will continue to use a comprehensive approach which includes internal and external partnerships on research priorities and brings together agency assets to implement efficient and effective responses.

In support of this work, the Homeland Security Research Program (HSRP) develops and evaluates environmental sampling, analysis, and human health risk assessment methods. These methods address known and emerging biological, chemical, and radiological threat agents. HSRP also develops and assesses decontamination and waste management technologies and methods.

¹¹ HSPD-5: Management of Domestic Incidents; HSPD-8: National Preparedness; HSPD-9: Defense of U.S. Agriculture and Food; HSPD-10: Biodefense for the 21st Century; and HSPD-22: Domestic Chemical Defense.

FY 2017 Activities and Performance Plan:

In FY 2017, the agency's Homeland Security Preparedness, Response, and Recovery program will continue to concentrate on four core areas:

- 1) Maintaining a highly skilled, well-trained, and well-equipped response workforce that has the capacity to respond to simultaneous incidents as well as threats involving CBRN substances;
- 2) Developing more effective site characterization, decontamination, waste management, and clearance strategies for site reoccupation, to ensure that the nation can quickly recover from nationally significant incidents;
- 3) Ensuring maintenance of capability and capacity to analyze Chemical Warfare Agent (CWA) samples while working to build and maintain the EPA's biological agent laboratory analyses capability and capacity; and
- 4) Implementing the EPA's National Approach to Response (NAR) to effectively manage the EPA's emergency response assets during large-scale activations.

The EPA's activities in support of these efforts include the following:

- Maintain the skills of the EPA's On-Scene Coordinators (OSCs) through specialized training, exercises, and equipment. This professional development provides staff with information on new technologies and supports direction to optimize an efficient and cost-effective response process. In FY 2017, the EPA and its federal, state, and Tribal homeland response partners will participate in exercises and trainings designed to test and improve the EPA's response capabilities. The EPA also will be developing and coordinating regional and area contingency plans as a useful tool for responders (informing responders on how to make a response effective);
- Sustain the agency's responder base during large-scale catastrophic incidents by training volunteers of the Response Support Corps (RSC) and members of Incident Management Teams (IMTs). These RSC volunteers provide critical support to headquarters and regional Emergency Operations Centers and also assist with operations in the field. To ensure technical proficiency, this cadre of response personnel requires initial training and routine refresher training. In addition, IMTs receive training throughout the regions;
- Operate the ERLN, sustain and operate CWA and biological labs, continue mobile capability through Portable High-Throughput Integrated Laboratory Identification Systems (PHILIS) units. The agency will continue to participate with the DHS led Integrated Consortium of Laboratory Networks (ICLN) to leverage federal, state, and commercial capabilities. The DHS led ICLN has been in existence since 2005 and continues to coordinate homeland security response issues through the Joint Leadership Council, of which the EPA's Homeland Security program is a member, and through the National Coordinating Group (NCG), of which the ERLN is a participating member;
- Monitor the environment during the decontamination phase of a significant CBRN incident. Decontamination is not possible without sampling and lab analyses to delineate

and characterize the site, to confirm successful decontamination, and for decisions on clearance to re-enter the site. To assist with site characterization, EPA fixed and mobile lab capabilities are needed; mobile labs, such as PHILIS, for deploying to sites for high volume, quick turnaround analyses; and fixed labs for providing added chemical and biological agent capacity and capability for non-routine analyses;

- Implement the NAR to maximize regional interoperability and to ensure that the EPA's OSCs and special teams will be able to respond to terrorist threats and large-scale catastrophic incidents in an effective and nationally consistent manner;
- Continue to maintain one Airborne Spectral Photometric Environmental Collection Technology (ASPECT) aircraft. ASPECT provides direct assistance to first responders by detecting chemical and radiological vapors, plumes, and clouds with real-time data delivery. ASPECT is especially needed when other assets cannot be deployed to a release (road, remote area and/or infrastructure damage, personnel concerns, etc.);
- Maintain ERT and CMAD personnel and equipment in a state of readiness for response to potential homeland security incidents. As an agency scientific support coordinator, the ERT also will maintain capacity to provide required health and safety and response readiness training to federal, state, local, and Tribal responders. As the agency lead for CBRN preparedness, CMAD will continue to develop and maintain training, plans, and assets for national response to a significant incident as well as engage with the research and development community to transition the latest science to the field;
- Continue to focus on assessing the persistence and transport of biological agents in indoor and outdoor areas and the effectiveness of decontamination options for sites contaminated with biological agents;
- Continue development of sample collection protocols for inclusion in the Selected Analytical Methods for Environmental Remediation and Recovery (SAM) sample collection compendium document. The SAM methods are a repository for pre-selected methods to use in a response and all ERLN labs are directed to use these methods;
- Continue development and assessment of methods for treating waste generated during remediation activities. These methods are expected to reduce both the timeline and cost of the response by reducing the volume of waste that requires final disposal.

Performance Targets:

Work under this program supports performance results in the Homeland Security: Preparedness, Response, and Recovery program under the S&T appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$165.0) This change to fixed and other costs is an increase due to the recalculation of base workforce costs for existing FTE due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$3,171.0) This program change reflects a decrease to the agency's homeland security emergency preparedness and response program. Existing agency preparedness will be maintained. Planned training and exercises will be prioritized and equipment upgrades for regional and special team field equipment may be delayed or modified. The EPA's national leadership responsibilities and assets will continue to be available when needed. Of this reduction, \$1.2 million reflects a decrease for emergency preparedness and response coordination activities with other agencies.
- (-\$767.0) This program change reflects a decrease to research related to analysis of chemical agents, decision support for chemical agent remediation, fate and transport of chemical, biological, or radiological (CBR) agents in the environment as well as research related to the treatment of decontamination wash water. This research informs mitigation, characterization, decontamination, and waste management methods and strategies after a release of CBR agents, improving the agency's ability to carry out its indoor/outdoor cleanup responsibilities.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), §§ 104, 105, 106; Clean Water Act; Oil Pollution Act; Homeland Security Act of 2002.

Homeland Security: Protection of EPA Personnel and Infrastructure

Program Area: Homeland Security

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$5,610.7	\$5,346.0	\$6,392.0	\$1,046.0
Science & Technology	\$541.0	\$552.0	\$605.0	\$53.0
Building and Facilities	\$7,957.7	\$6,676.0	\$7,875.0	\$1,199.0
<i>Hazardous Substance Superfund</i>	<i>\$1,351.7</i>	<i>\$1,086.0</i>	<i>\$1,113.0</i>	<i>\$27.0</i>
Total Budget Authority / Obligations	\$15,461.1	\$13,660.0	\$15,985.0	\$2,325.0
Total Workyears	3.1	12.2	12.2	0.0

Program Project Description:

The Homeland Security Comprehensive Continuity of Operations (COOP) program ensures that the EPA's physical structures and assets are secure and operational and that certain physical security measures are in place to help safeguard staff in the event of an emergency. The program also includes the personnel security clearance process, protection of classified information, and the provision of necessary secure communications.

The EPA's policy is to have a COOP program in place to ensure continuity of its mission essential functions (MEFs) under all emergency circumstances. Under Homeland Security Presidential Directive 20 (HSPD-20), the EPA is required to designate an Agency Continuity Coordinator charged with ensuring that the EPA's continuity program is consistent with federal policies. The EPA's Emergency Management program is responsible for developing the EPA's COOP Plan.

FY 2017 Activities and Performance Plan:

In FY 2017, the agency will continue to follow the requirements outlined in the Department of Homeland Security/Federal Emergency Management Agency's (FEMA) Federal Continuity Directive (FCD)-1. FCD-1 requires the EPA to develop a continuity plan that ensures its ability to accomplish its MEFs from an alternative site, with limited staffing and without access to resources available during normal activities.

Consistent with a review of its needs and priorities pursuant to the directive, the EPA will undertake a number of activities, including, but not limited to the following:

- Conduct annual reviews of the headquarters and regional COOP plans and update the plans, as needed, to reflect current operations;
- Conduct an annual review of the EPA's Primary MEF and supporting MEFs to ensure that they reflect current agency activities;
- Provide annual training to the EPA staff on general COOP awareness and procedures;
- Conduct exercises of COOP deployment, devolution, activation of Emergency Relocation Group personnel to the COOP site, and implementation of its MEFs from its alternate site(s), including interagency operations. In FY 2017, EPA plans to support training activities and participate in both a major interagency COOP exercise and an EPA internal COOP exercise with headquarters and regional offices; and
- Show progress toward meeting the requirements of National Communications System Directive (NCSD) 3-10 through the purchase, installation, and maintenance of secure communications equipment.

Currently, the EPA's COOP program is reviewed internally every month, according to criteria established in FEMA's Continuity Evaluation Tool and Readiness Reporting System. The COOP program is evaluated in over 200 elements in 13 categories, including Program Plans and Procedures, Risk Management, Budgeting, Essential Functions, and others. The results of the internal review are delivered to FEMA, who, in turn, delivers the review results to the White House. Every other year, FEMA performs an in-person review of the EPA's COOP program and provides the results to the Administrator and to the White House. The EPA's program will be reviewed in May 2016, as part of the national Eagle Horizon COOP exercise, with results expected sometime in the summer of 2016. In FY 2017, the program will work towards implementing any adjustments or improvements indicated during the biennial review.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently, there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$27.0) This program change increases funding for implementing changes recommended from the COOP program internal reviews that occur each month.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), §§ 104, 105, 106; Intelligence Reform and Terrorism Prevention Act of 2004; Homeland Security Act of 2002; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Program Area: Information Exchange / Outreach

Exchange Network

Program Area: Information Exchange / Outreach

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$18,395.0	\$17,016.0	\$25,466.0	\$8,450.0
<i>Hazardous Substance Superfund</i>	<i>\$1,321.1</i>	<i>\$1,328.0</i>	<i>\$1,366.0</i>	<i>\$38.0</i>
Total Budget Authority / Obligations	\$19,716.1	\$18,344.0	\$26,832.0	\$8,488.0
Total Workyears	35.1	30.2	30.2	0.0

Program Project Description:

The EPA's Environmental Information Exchange Network (EN) is a standards-based, secure approach for the EPA and its state, Tribal, and territorial partners to exchange and share environmental data over the Internet. As it employs new technology and data standards, open-source software, shared and portal services and reusable tools and applications, the EN offers its partners tremendous potential for managing and analyzing environmental data more effectively and efficiently, leading to improved decision-making.

The Central Data Exchange (CDX)¹² is the largest component of the EN program and serves as the point of entry on the EN for environmental data submissions to the agency. CDX provides a set of core services that promote a leaner and more cost-effective enterprise architecture for the agency by avoiding the creation of duplicative services. It also provides a set of value-added features and services that enable faster and more efficient transactions for internal and external clients of the EPA. Through CDX, a stakeholder can submit data through one centralized point of access, exchange data with target systems using shared services, and utilize publishing services to share information collected by the EPA and other stakeholders (including states and tribes).

FY 2017 Activities and Performance Plan:

In FY 2017, as part of the E-Enterprise business strategy, the EPA will continue to carry out the following projects under the Exchange Network program: expanding the roll out of the Federated Identity Management system for the EPA and its partners; developing shared facility identification services that improve quality and reduce burden on states and tribes; developing initial services for EPA's Laws and Regulations (LRS) registry, which will standardize identification of and associations between regulations, laws, and EPA's programs; and deploying reusable electronic signature services to streamline Cross-Media Electronic Reporting Regulation (CROMERR)

¹² For more information on the Central Data Exchange, please visit: <http://www.epa.gov/cdx/>.

compliance. Advancements in data transport services, such as Virtual Exchange Services (VES), will continue to provide state-of-the-art cloud-based solutions for the EPA's state and Tribal partners.

The EPA will continue to provide enhanced IT services and make them available for state, Tribal and territorial system implementations that will reduce resource requirements and streamline compliance with the CROMERR. In FY 2015, the EPA fully automated the CROMERR application submission and review process. The EPA is prepared for a significant increase in FY 2016 in the volume of CROMERR applications as a result of the mandatory electronic reporting rule for NPDES. In FY 2017 the EPA will continue to:

- Conduct robust outreach activities to increase awareness of VES, interfaces and CROMERR services and the benefits of using these services;
- Approve CROMERR applications from authorized programs that propose to use the EPA's virtual CROMERR services and assist co-regulators with integrating these services into their systems; and
- Provide virtual services to new Tribal partners and to existing state, Tribal, or territorial partners who are replacing or augmenting local Exchange Network nodes to better integrate services.

The above CROMERR activities are intended to assist states and tribes in the development activities associated with establishing a point of presence and exchanging data on the Network and supporting local electronic reporting programs in a more cost effective way. The proven success of this strategy is illustrated by improvements in performance measures, which include the number of states, tribes and territories exchanging data with CDX (from 69 in FY 2010 to 104 in FY 2015) and unique active users (up from 56,200 in FY 2011 to 85,894 in FY 2015). In addition, these efforts will facilitate the development of a CROMERR-compliant Hazardous Waste Electronic Manifest System, which will reduce reporting burden for the regulated entities.

Performance Targets:

Work under this program supports the performance results in the Exchange Network program under the EPM appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$10.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$28.0) This program change reflects an increase in contractual support costs for the Central Data Exchange.

Statutory Authority:

Federal Information Security Management Act (FISMA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Clean Air Act (CAA); Clean Water Act (CWA); Toxic Substances Control Act (TSCA); Federal Insecticide Fungicide and Rodenticide Act (FIFRA); Resource Conservation and Recovery Act (RCRA); Government Performance and Results Act (GPRA); Government Management Reform Act (GMRA); Clinger-Cohen Act (CCA); Paperwork Reduction Act (PRA); Controlled Substances Act (CSA); The Privacy Act of 1974; Freedom of Information Act (FOIA).

Program Area: IT / Data Management / Security

Information Security

Program Area: IT / Data Management / Security

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$6,981.9	\$28,186.0	\$21,138.0	(\$7,048.0)
Science & Technology	\$100.0	\$0.0	\$0.0	\$0.0
<i>Hazardous Substance Superfund</i>	<i>\$541.5</i>	<i>\$6,083.0</i>	<i>\$4,704.0</i>	<i>(\$1,379.0)</i>
Total Budget Authority / Obligations	\$7,623.4	\$34,269.0	\$25,842.0	(\$8,427.0)
Total Workyears	12.3	14.3	14.3	0.0

Program Project Description:

Information is a valuable national resource and a strategic asset to the EPA. It enables each program office to fulfill its mission to protect human health and the environment. The agency's Information Security program funded from the Superfund appropriation is designed to protect the confidentiality, availability and integrity of the EPA's information assets. The information protection strategy for the Superfund program includes, but is not limited to: policy, procedure and practice management; information security awareness, training and education; risk-based governance and oversight; weakness remediation; operational security management; incident response and handling; and Federal Information Security Modernization Act (FISMA) compliance and reporting.

FY 2017 Activities and Performance Plan:

Cybersecurity is a serious challenge to our nation's security and economic prosperity and a high priority as one of the 14 federal Cross-Agency Priority (CAP) goals. The EPA will implement continuous monitoring of security controls in FY 2017 to strengthen its cybersecurity and address increasing security threats and risks. Effective information security requires vigilance and the ability to adapt to new challenges every day. The EPA will continue to manage information security risk and build upon efforts towards achieving the cybersecurity CAP goal to protect, defend and sustain its information assets through continued improvements to policy and procedures; oversight and compliance; training and awareness; mission assurance; and incident response. This program continually looks to improve the agency efforts in redesigning IT security business processes to improve efficiency and effectiveness.

In FY 2017, the EPA will continue to sustain multi-year improvements such as foundational capabilities and closing gaps in the security architecture. The EPA will close existing gaps by

building strong authentication improvements into the agency's system, implementing capabilities to identify and respond to insider threats, and to quickly isolate and remediate suspected or known compromised systems. These three areas are cornerstone capabilities in protecting against, responding to and mitigating significant risk sources, namely advanced persistent threats and insider threats. Other areas planned for FY 2017 include detecting and protecting against attacks on data stores, capturing and integrating threat intelligence sources, and developing mobile device controls. In addition to the continued improvements, the agency will need to sustain the tools and processes implemented in FY 2015 and FY 2016. The security architecture, associated processes and people together comprise an ecosystem with cross dependencies, and the system is strongest when operating as a whole. Not implementing the range of efforts in its entirety makes these protections less operationally and cost effective.

In FY 2017, the EPA will build on progress made in advancing the Information Security program by:

- Increasing the use of continuous monitoring tools and processes;
- Focusing on protecting information;
- Strengthening authentication controls;
- Strengthening malware and defensive protections;
- Continuing to update and implement the information security architecture; and
- Refining incident management capabilities.

The Information Security program also will continue to detect and remediate Advanced Persistent Threats to the agency's information and information systems. The agency will continue to focus on training and user awareness to foster desired behavior, asset definition and management, compliance, incident management, knowledge and information management, risk management and technology management. These efforts will strengthen the agency's ability to adequately protect information assets. The final result will be an Information Security program that can rely on effective and efficient controls and processes to counter cybersecurity threats.

In FY 2017, the agency will continue Phase II of the implementation of the Homeland Security Presidential Directive 12 (HSPD-12) requirements for logical and physical access as identified in the Federal Information Processing Standards (FIPS) 201, *Personal Identity Verification (PIV) of Federal Employees and Contractors*¹³. This effort ensures only authorized employees have access to federal and federal-controlled facilities and information systems by requiring a higher level of identity assurance. Phase II will incorporate: physical access control management and interoperability with other federal agencies and partners.

The agency's efforts to implement the cross-agency priority goal on cybersecurity will focus on:

- Achieving 95 percent automated capability to provide enterprise-level visibility into asset inventory for all hardware assets and software assets;
- Filtering 90 percent of web traffic for phishing and malware attempts and blocking malicious websites;

¹³ Please see: <http://www.nist.gov/itl/csd/ssa/piv.cfm>.

- Checking 90 percent of email attachments for malware and blocking or quarantining malicious email;
- Using sender authentication on 90 percent of emails;
- Checking 90 percent of outbound communications for covert exfiltration;
- Checking 90 percent of remote connections for malware; and
- Evaluating 95 percent of hardware assets using an automated capability that scans for vulnerabilities on computing devices using the Common Vulnerabilities and Exposures (CVEs) in the National Institute of Standards and Technology's vulnerability database and aggregating data, making it visible at the enterprise level.

The EPA will continue to enhance the internal Computer Security Incident Response Capability (CSIRC) to ensure rapid identification, response, alerting and reporting of suspicious activity. CSIRC's mission is to protect the EPA's information assets and respond to security incidents – actual and potential. This includes the ability to detect unauthorized attempts to access, destroy, or alter the EPA's data and information resources. CSIRC will continue to establish new, and build existing, relationships with other federal agencies and law enforcement entities to support the agency's mission. The incident response capability includes components such as detection and analysis; forensics; and containment and eradication activities. To help ensure tools, techniques, and practices are current, CSIRC monitors new trends in information security and threat activity.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$21.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$1,400.0) This net fixed costs and program change reduces funding for cybersecurity related activities, leveraging progress made through the investments made in FY 2016. The net change will be realized from savings following start-up acquisition and development of IT tools required to improve the agency's cybersecurity. Areas with expected progress include: improving foundational capabilities, closing gaps in security architecture, modernizing infrastructure, and continuous monitoring to detect and remediate the effects of Advanced Persistent Threats to the agency's information and information systems.

Statutory Authority:

Federal Information Security Modernization Act (FISMA); Government Performance and Results Act (GPRSA); Government Management Reform Act (GMRA); Clinger-Cohen Act (CCA); Paperwork Reduction Act (PRA); The Privacy Act of 1974; Freedom of Information Act (FOIA).

IT / Data Management

Program Area: IT / Data Management / Security

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$82,204.2	\$83,950.0	\$105,836.0	\$21,886.0
Science & Technology	\$3,171.0	\$3,089.0	\$3,092.0	\$3.0
<i>Hazardous Substance Superfund</i>	<i>\$13,865.7</i>	<i>\$13,802.0</i>	<i>\$15,437.0</i>	<i>\$1,635.0</i>
Total Budget Authority / Obligations	\$99,240.9	\$100,841.0	\$124,365.0	\$23,524.0
Total Workyears	440.0	478.8	478.8	0.0

Program Project Description:

The work performed under the EPA's Superfund appropriated Information Technology/Data Management (IT/DM) program supports agency priorities by providing critical IT infrastructure and data management needed for: 1) access to scientific, regulatory, policy and guidance information needed by agency staff, the regulated community and the public; 2) analytical support for interpreting and understanding environmental information; 3) exchange and storage of data, analysis and computation; and 4) rapid, secure and efficient communication. These are organized by the following functional areas: information analysis and access; data management and collection; information technology and infrastructure; and geospatial information and analysis.

IT/DM program activities support the Administration's goals of transparency, participation, engagement and collaboration to expand the conversation on environmentalism and support Executive Order No. 13642 - Making Open and Machine Readable the Default for Government Information. IT/DM also supports the maintenance of the EPA's IT services that enable citizens, regulated facilities, states and other entities to interact with the EPA electronically to get the information they need on demand, to understand what it means, and to submit and share environmental data with the least cost and burden. The program also provides support to other agency IT development projects and essential technology to agency staff, enabling them to conduct their work in support of Superfund programs effectively and efficiently.

With the introduction of the Federal Information Technology Acquisition Reform Act (FITARA), the EPA is revising its IT budgeting, acquisition, portfolio review, and governance processes to adopt practices that improve delivery of capability to users, drive down lifecycle costs, and ensure

proper leveraging of shared services. The EPA's FITARA Implementation Plan¹⁴ meets federal guidance and seeks to leverage existing processes to improve efficiency.

FY 2017 Activities and Performance Plan:

The EPA's IT/DM functions have progressively integrated new and transformative approaches to the way IT is managed across the agency. The goal of the EPA's IT/DM services is to enhance the power of information by delivering on demand data to the right people at the right time. In FY 2017, the EPA will continue developing and implementing data analytics, visualization, and predictive analysis methods and tools that will help the agency explore and address environmental, business and public policy challenges. Based on the EPA's requirements and technology assessments completed in FY 2015, the agency will develop the necessary enterprise solutions for infrastructure and software tools. The new agency infrastructure and suite of tools will allow the EPA to better harness the power of data analytics tools in program analysis across the agency to drive environmental results. Pilot projects, driven by agency needs and use cases, will continue in order to demonstrate tangible benefits to the agency. The analytical platform will be supported and enhanced by developing a core group of employees to provide expertise and coordination of ongoing activities.

Under the agency's E-Enterprise strategy, business processes and related systems will be modernized to improve integration and efficiency. To ensure the agency can effectively build and deliver important digital services as it modernizes and integrates its systems, the FY 2017 President's Budget includes funding to continue support to a Digital Service team that brings the system design expertise needed for transforming the agency's digital services, making them easier for the public to use and more cost-effective for the agency to build and maintain. Establishing this team is a key element of the EPA's FITARA Implementation Plan. In accordance with the government-wide Digital Services initiative, the EPA's digital experts will work in collaboration across the agency to develop and implement new externally facing technology solutions and to improve the EPA's existing technology infrastructure. The EPA will continue to deliver quality customer service to the public through smarter IT services to make it faster and easier for people and businesses to complete transactions. The team's core mission is to improve and simplify the digital experience that people and businesses have with their government. In FY 2017, the digital service team will continue to:

- Implement standards and solutions to bring digital services in line with the best private sector services in design, software engineering, and product management and apply these to the agency's most important services;
- Identify, implement and leverage common technology patterns that will help us scale services effectively;
- Provide consulting services to help programs and projects transition to best practices;
- Provide agile acquisition services to help with rapid and high quality acquisition services;
- Provide recruiting and qualification services to increase the skill level of technical staff at the EPA;

¹⁴ Please see: <http://www.epa.gov/open/digital-strategy>.

- Provide onsite piloting services to speed up project start times and ultimately delivery times;
- Identify and address gaps in the agency's capacity to design, develop, deploy and operate excellent public-facing services; and
- Provide accountability to ensure that the EPA achieves results.

In FY 2017, the EPA will continue to implement its IT acquisition review process as part of the implementation of federal Common Baseline Controls for the FITARA. The EPA's FITARA controls engage the agency's Chief Information Officer (CIO) in the budget process to ensure that IT needs are properly planned and resourced. In addition, FITARA controls include an established solid communication and engagement strategy for the CIO with the agency's programs and Regional Offices to ensure that their IT plans are well designed, directly drive agency strategic objectives, and follow best practices. Lastly, the controls ensure the CIO engages heavily with key IT decision-makers across the EPA and engenders plans to refresh IT skills within the agency.

In FY 2017, the following IT/DM activities will continue to be provided for the Superfund program:

- **Data Management and Collection:** In FY 2017, the agency will continue to identify and establish processes to capture electronic versions of records and eliminate, wherever possible, receiving or printing paper copies. These efforts will increase accountability, improve accuracy and offer cost savings associated with information requests. Data Management and Collection efforts include support for the agency's Freedom of Information Act (FOIA) program and the privacy of the agency's environmental data and personally identifiable information (PII). In FY 2017, the agency will continue to assess how to support the expanding responsibilities associated with controlled unclassified information (CUI). The agency also will continue to develop a strategy to deliver improved information services to agency staff. This includes governance (policy, procedures and standards), outreach and training, and a multi-project effort to improve records and eDiscovery. In addition, the EPA continues to operate a shared service docket processing center providing support to the agency's rulemakings and administer the Paperwork Reduction Act to minimize information collection burden on the public. (In FY 2017, the Data Management and Collection activities will be funded, under the Superfund appropriation, at \$969 thousand in non-payroll funding.)
- **Geospatial:** In addition to meeting ongoing program needs, Geospatial information and analysis play a critical role in the agency's ability to respond rapidly and effectively in times of emergency. In FY 2017, the agency will continue to enhance the capabilities of the GeoPlatform, its shared technology enterprise for geospatial information and analysis. By implementing geospatial data, applications and services, the agency is able to integrate and interpret multiple data sets and information sources to support environmental decisions. Specifically during FY 2017, Geoplatform enhancements will focus on creating data services and dashboards based on the improved geographic information to support programmatic analysis and decision making and better inform the public about the EPA's use of grant funding to protect the environment and public health. Also in FY 2017, the EPA will use the Geoplatform to publish internal and public mapping tools, including the

recently deployed Maps for Office. With this service making the GeoPlatform easily accessible to the agency, it is anticipated that there will be at least a 25 percent increase in the number of shareable maps, geodata services, and applications available for use. The EPA will continue to play a leadership role in both the Federal Geographic Data Committee and the National Geospatial Platform, working with partner agencies to share geospatial technology capabilities across government. (In FY 2017, the Geospatial activities will be funded, under the Superfund appropriation, at \$98 thousand in fixed costs and \$671 thousand in non-payroll funding.)

- **Information Access and Analysis:** In FY 2017, the EPA will develop agency infrastructure and a suite of tools that will harness the power of data across the agency to drive better environmental results. The agency will continue to identify, design, develop and deploy products that use the advanced data analytics and visualization (ADAV) platform and address core EPA missions. The EPA will partner with other agencies, states, tribes and academic institutions to propose innovative ways to use, analyze and visualize data. Based on the lessons learned through small technology deployments in FY 2015 and more robust deployments in FY 2016, the EPA will more fully develop the ADAV platform with additional investments in IT infrastructure, analytical software, improved coordination of activities and training. The ADAV can serve as a backbone for analytics and data visualization efforts.

In addition, the program will be closely aligned with the E-Enterprise business strategy and Digital Services team to provide support throughout the data lifecycle from data identification and collection through internal and external data presentation. The program will continue to provide analysis of environmental information to the public and the EPA's staff through My Environment, Envirofacts, OneEPA Web, EPA National Library Network and the EPA Intranet. The program will continue to ensure compliance of the EPA's public systems with Section 508 of the Rehabilitation Act of 1973. (In FY 2017, the Information Access and Analysis activities will be funded, under the Superfund appropriation, at \$832 thousand in non-payroll funding.)

- **Information Technology and Infrastructure:** In FY 2017, the agency will continue to support information technology and infrastructure. The EPA will continue maintaining and provisioning desktop computing equipment, network connectivity, e-mail and collaboration tools, application hosting, remote access, telephone services and maintenance, Web and network services, and IT-related maintenance. Moreover, the EPA will continue to support the Federal PortfolioStat portfolio and investment reviews in coordination with the agency's Capital Planning and Investment Control process and FITARA implementation. Also in FY 2017, the agency will continue efforts to consolidate the EPA's data centers and computer rooms and to optimize operations within the EPA's remaining Core and non-Core data centers. The EPA also is committed to using cloud computing technologies and has in place an enterprise-wide cloud hosting service by 2017. This will include shared services and customized software to support mobile management of inspections and inspection data. (In FY 2017, the Information Technology and Infrastructure activities will be funded, under the Superfund appropriation, at \$4.55 million in fixed costs and \$8.31 million in non-payroll funding.)

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$676.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to the adjustments in salary, essential workforce support, and benefit costs.
- (+\$959.0) This program change increases funding for implementation of an integrated and coordinated approach to e-Discovery, FOIA records management, and employee user training. These efforts will help streamline business processes and create more efficiencies.

Statutory Authority:

Federal Information Security Management Act (FISMA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Clean Air Act (CAA); Clean Water Act (CWA); Toxic Substances Control Act (TSCA); Federal Insecticide Fungicide and Rodenticide Act (FIFRA); Food Quality Protection Act (FQPA); Safe Drinking Water Act (SDWA); Resource Conservation and Recovery Act (RCRA); Government Performance and Results Act (GPRA); Government Management Reform Act (GMRA); Clinger-Cohen Act (CCA); Paperwork Reduction Act (PRA); Freedom of Information Act (FOIA); Controlled Substances Act (CSA).

Program Area: Legal / Science / Regulatory / Economic Review

Alternative Dispute Resolution

Program Area: Legal / Science / Regulatory / Economic Review

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$1,272.5	\$1,045.0	\$1,255.0	\$210.0
<i>Hazardous Substance Superfund</i>	<i>\$748.8</i>	<i>\$675.0</i>	<i>\$767.0</i>	<i>\$92.0</i>
Total Budget Authority / Obligations	\$2,021.3	\$1,720.0	\$2,022.0	\$302.0
Total Workyears	5.7	6.7	6.7	0.0

Program Project Description:

The EPA's General Counsel and Regional Counsel Offices provide environmental Alternative Dispute Resolution (ADR) services. The EPA utilizes ADR as a method for preventing or resolving conflicts prior to engaging in formal litigation and includes the provision of legal counsel, facilitation, mediation and consensus building advice and support. Funding supports the use of ADR in the Superfund program's extensive legal work with communities and Potentially Responsible Parties (PRPs). The program offers cost-effective processes to resolve disputes and improve agency decision making without costly, protracted litigation.

FY 2017 Activities and Performance Plan:

In FY 2017, the agency will continue to provide conflict prevention and ADR services to the EPA's headquarters and Regional Offices and external stakeholders on Superfund program matters. The national ADR program assists in developing effective ways to anticipate, prevent, and resolve disputes and makes neutral third parties—such as facilitators and mediators—more readily available for those purposes. In FY 2017, the agency plans to support 30 Superfund cases with neutral third party support in areas including: community engagement, allocation negotiations between PRPs, record of decision discussions, and Environmental Justice issues related to the cleanup and restoration of Superfund sites.

Additionally, the agency will continue to provide ADR and collaboration advice and conflict coaching for at least 72 new Superfund cases where headquarters programs and Regional Offices are working with stakeholders to improve environmental results. The agency also expects to provide at least 20 training events, reaching about 350 of the EPA's employees (Superfund and non-Superfund), to continue to build the agency's capacity to resolve environmental issues in the most efficient way to achieve the agency's strategic objectives. Under the EPA's ADR Policy and

the OMB/CEQ memorandum on Environmental Collaboration and Conflict Resolution¹⁵, the agency encourages the use of ADR techniques to prevent and resolve disputes with external parties in many contexts, including: adjudications, rulemaking, policy development, administrative and civil judicial enforcement actions, permit issuance, protests of contract awards, administration of contracts and grants, stakeholder involvement, negotiations, and litigation.^{16,17}

Providing facilitation/mediation support to Superfund cases and ADR training to agency personnel pays dividends by reducing and often eliminating the need to litigate enforcement and compliance cases, engage in defensive litigation, and litigate hazardous waste remediation determinations and requirements. Superfund site cleanups and their attendant public health benefits occur sooner, and FTE and contract dollar savings accrue to the Office of General Counsel, programs, Regional Offices, Environmental Appeals Board, Office of Administrative Law Judges and the Department of Justice. For example, as previously reported, the EPA estimated 25 percent better environmental outcomes and an average of more than \$50,000 in FTE savings per case in a small pilot study of Superfund and non-Superfund ADR cases. In FY 2015, the EPA conducted a survey of all litigation-related FY 2013 Superfund and non-Superfund ADR cases and estimated that ADR required 50 percent fewer staff lead hours for active periods and one-third less elapsed time to reach a decision compared to decision making processes that likely would have been used otherwise (e.g., litigation, unassisted negotiation). These FY 2013 results are consistent with those from an earlier survey of FY 2011 and FY 2012 cases.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$170.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$78.0) This program change reflects a decrease in resources to provide ADR services and training within Superfund. The agency will utilize more cost-effective processes to resolve disputes and improve decision making across the agency.

Statutory Authority:

Administrative Dispute Resolution Act (ADRA) of 1996; Negotiated Rulemaking Act of 1996; Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), §§ 111, 117, 122; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA’s organic statute).

¹⁵ Please see: http://www.epa.gov/sites/production/files/2015-09/documents/omb_ceq_eccr.pdf.

¹⁶ Please see: <http://www.epa.gov/sites/production/files/2015-09/documents/epaadrpolicyfinal.pdf>.

¹⁷ Please see: http://www.epa.gov/sites/production/files/2015-09/documents/omb_ceq_eccr.pdf.

Legal Advice: Environmental Program

Program Area: Legal / Science / Regulatory / Economic Review

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$45,980.5	\$48,565.0	\$53,021.0	\$4,456.0
<i>Hazardous Substance Superfund</i>	<i>\$735.5</i>	<i>\$578.0</i>	<i>\$511.0</i>	<i>(\$67.0)</i>
Total Budget Authority / Obligations	\$46,716.0	\$49,143.0	\$53,532.0	\$4,389.0
Total Workyears	234.1	274.6	274.6	0.0

Program Project Description:

This program provides legal representation, legal counseling and legal support for environmental activities under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Funding supports legal advice needed in the Superfund program's extensive work with Potentially Responsible Parties (PRPs) and other entities and landowners. For example, this program provides legal analysis and advice to help inform the EPA's decisions regarding the assessment of certain contaminants at a given Superfund site under federal law, and a party's potential liability under CERCLA.

This program supports the EPA's Superfund work, including thousands of cleanups costing billions of dollars, controlling high exposures to toxins that threaten the public with disease and mortality, the enforcement of the necessary cleanups, and challenges to the EPA's actions. This program is essential to providing the high quality legal work to ensure that the EPA's decisions are defensible and upheld by the courts against judicial challenges. Without these legal successes, the result would be fewer or poorer cleanups, the waste of taxpayer dollars, and potentially the payment from taxpayer dollars of costs incurred by polluters.

FY 2017 Activities and Performance Plan:

In FY 2017, the program will continue to provide legal support for the Superfund program. This program's activities will include analyzing defensibility of agency actions, drafting significant portions of agency actions, and participating in litigation in defense of agency actions. In addition, the program expects to see a continued demand across its legal counseling offices as a result of the agency's transformation to a higher performing organization. All legal counseling offices will be called on to provide legal support for this transformation, while also working to ensure continued compliance with all environmental and administrative laws.

This program is critical to the Superfund program in a multitude of ways. For example, in support of Goal 3 of the EPA’s Strategic Plan (Cleaning up Communities and Advancing Sustainable Development) this program provides legal advice and counseling for final rules adding Superfund Sites to the National Priorities List.

The following examples illustrate this program’s important role in implementing the agency’s core priorities and mission.

Goal ¹⁸	Specific EPA OGC Activities in FY 2015
Goal 3	Analyzed complex CERCLA remedy selection issues to help facilitate decisions at significant and complex cleanup sites, including Portland Harbor, Housatonic River, and Passaic River.
Goal 3	Drafted detailed, complex legal arguments in a letter to the Department of Justice’s Office of Legal Counsel (OLC) regarding RCRA and CERCLA cleanup authority over pesticides.
Goal 3	Provided expert legal advice and counsel resulting in the EPA’s proposal of amendments to Subpart J of the National Contingency Plan (use of dispersants and other additives to clean up oil spills) to incorporate scientific advances and lessons learned from the Deepwater Horizon Oil Spill. ¹⁹
Goal 3	Provided expert legal advice and counsel to the agency’s Superfund Enforcement Program to ensure finalization of CERCLA Financial Assurance Guidance and CERCLA Financial Assurance Sample Documents to help ensure that persons liable for cleanups can fully finance them. ²⁰
Goal 3	Counseled the EPA’s Superfund Remedial program regarding adding eight sites to the National Priorities List for remedial action under CERCLA. ²¹ None of the listings has been overturned.
Goal 3	Counseled the EPA’s Superfund Remedial program in publishing guidance on handling of hazardous waste that will help ensure that the EPA can fund remedial actions in all 50 states, under CERCLA sec. 104(c)(9). ²²
Goal 3	Successfully advocated on behalf of the EPA for the U.S. to file an amicus brief that resulted in a favorable district court decision in <i>Pakootas v. Teck Ltd.</i> (E.D. Wash.) that CERCLA imposes liability on emissions into the air (a theory underlying more than 400 EPA cases).

¹⁸ The EPA Strategic Plan for 2014-218 identifies five strategic goals to guide the agency’s work:

- Goal 1: Taking Action on Climate Change and Improving Air Quality
- Goal 2: Protecting America’s Waters
- Goal 3: Cleaning Up Communities and Advancing Sustainable Development
- Goal 4: Ensuring the Safety of Chemicals and Preventing Pollution
- Goal 5: Enforcing Environmental Laws

¹⁹ 40 C.F.R. Part 300, Subpart J.

²⁰ Guidance on Financial Assurance in Superfund Settlement Agreements and Unilateral Administrative Orders (4/6/2015).

²¹ Colorado Smelter, Pueblo, CO; Kokomo Contaminated Water Plume, Kokomo, IN; McLouth Steel Gibraltar Plant, Gibraltar, MI; Estech General Chemical Co., Calumet City, IL; Colonial Creosote, Bogalusa, LA; BJAT LLC, Franklin, MA; Main St. Ground Water Plume, Burnet, TX; Grain Handling Facility at Freeman, Freeman, WA.

²² Updated Statement of National Capacity for Superfund State Contracts and Remedial Cooperative Agreements, 3/25/2015.

Goal 3	Successfully defended key agency positions at the Fox River, WI site. <i>NCR Corp v. George A. Whiting Paper Co.</i> (7th Cir.); <i>U.S. v. P.H. Glatfelter Co.</i> (7th Cir.), including the validity of the entire remedy, liability of potentially responsible parties (PRPs), and protection for cooperating parties from contribution claims by other PRPs and indemnitors.
Goal 3	Provided key legal counseling to the EPA’s Superfund removal program, which included hundreds of cleanups of highly toxic substances, including asbestos, PCBs and dioxin. The program prioritized counsel for those removal actions that dealt with the largest health risks and costs.
Goal 3	Provided critical legal counseling and drafting in support of the agency’s defense against a mandamus petition before the D.C. Circuit in <i>In re: Idaho Conservation League, et al.</i> , No. 14-1149. The case concerns the EPA’s efforts to develop for the first time, regulations under CERCLA section 108(b) requiring classes of facilities to maintain evidence of financial responsibility for risks associated with hazardous substance management.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$1.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$66.0) This program change reflects efficiencies to be realized in business process changes such as consolidated and realignment of administrative support workload.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA’s organic statute).

Program Area: Operations and Administration

Facilities Infrastructure and Operations
Program Area: Operations and Administration

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Inland Oil Spill Programs	\$498.0	\$584.0	\$1,763.0	\$1,179.0
Science & Technology	\$67,222.2	\$68,339.0	\$78,447.0	\$10,108.0
Environmental Program & Management	\$313,026.1	\$311,540.0	\$329,281.0	\$17,741.0
Leaking Underground Storage Tanks	\$757.9	\$783.0	\$1,101.0	\$318.0
Building and Facilities	\$33,326.3	\$35,641.0	\$44,203.0	\$8,562.0
<i>Hazardous Substance Superfund</i>	<i>\$77,680.0</i>	<i>\$74,278.0</i>	<i>\$70,960.0</i>	<i>(\$3,318.0)</i>
Total Budget Authority / Obligations	\$492,510.5	\$491,165.0	\$525,755.0	\$34,590.0
Total Workyears	327.1	350.2	349.9	-0.3

Program Project Description:

Superfund resources in the Facilities Infrastructure and Operations Program fund rent, utilities, and security. This program also supports centralized administrative activities and support services, including health and safety, environmental compliance and management, facilities maintenance and operations, space planning, property management, sustainable facilities and energy conservation planning and support, printing, mail, and transportation services. Funding is allocated for such services among the major appropriations for the agency.

FY 2017 Activities and Performance Plan:

As part of the EPA's efforts toward continuing to improve as a High Performing Organization (HPO), the agency reviews space needs and is implementing a long-term space consolidation plan that will reduce the number of occupied facilities, consolidate space within the remaining facilities, and reduce the square footage wherever practical. In FY 2017, the EPA will continue to invest to reconfigure the EPA's workspaces with the goal of reducing long-term rent costs. This work will enable the agency to release office space and reduce costs as well as support the President's June 2010 memorandum on "Disposing of Unneeded Federal Real Estate." Since FY 2012 the EPA released over 250 thousand square feet of office space nationwide, resulting in a cumulative annual rent avoidance of nearly \$9.2 million across all appropriations. These savings help offset the EPA's escalating rent and security costs.

Consolidations and moves also are planned for Potomac Yard North at Headquarters and Regional Offices that will allow the EPA to release another estimated 336 thousand square feet of office

space. For FY 2017, the agency is requesting \$37.15 million for rent, \$3.06 million for utilities, and \$7.38 million for security in the Superfund appropriation.

In FY 2017, the EPA will continue to improve operating efficiency and encourage the use of advanced technologies and energy sources to meet the goals of Executive Order (EO) 13693,²³ *Planning for Federal Sustainability in the Next Decade*. The agency will attain the EO's environmental performance goals related to buildings through several initiatives, including: environmental management systems; comprehensive facility energy audits; re-commissioning; and sustainable building design.

EO 13693, *Planning for Federal Sustainability in the Next Decade*, consolidates and revokes numerous previous environmental Executive Orders and Presidential Memoranda and requires additional reductions to greenhouse gas (GHG) emissions. To meet the requirements of EO 13693 the EPA will manage existing building systems to reduce consumption of energy, water, and materials, consolidate and dispose of existing facilities, and optimize real property and portfolio performance. In FY 2017, the agency is targeting to reduce energy utilization (or improve energy efficiency) by approximately 45 billion British Thermal Units or five percent below FY 2015 energy utilization levels. This ongoing effort to become more efficient has yielded impressive results - approximately 32.7 percent less energy used in FY 2015 than in FY 2003, and annual cost savings of \$5.9 million agencywide. Similarly, the EPA has had remarkable success in reducing Scope 1 and 2 greenhouse gas emissions. As of FY 2015, the EPA reduced its Scope 1 and 2 greenhouse gas emissions 63.0 percent lower than emissions in FY 2008. Incremental improvements become more challenging as projects become more complex and resource intensive.

Performance Targets:

Work under this program supports the performance measures in the Facilities Infrastructure and Operations program under the EPM appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment section. Information on the agency's energy/GHG reduction initiative can be found in the agency's Strategic Sustainability Performance Plan.²⁴

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$599.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs including transit subsidy.
- (-\$3,990.0) This net change to fixed and other costs is due to the recalculation of rent, utility and security (RUS) needs driven largely by a rebounding commercial real estate market.

²³ For additional information, refer to: <https://www.fedcenter.gov/programs/eo13693/>, *Planning for Federal Sustainability in the Next Decade*.

²⁴ For additional information, refer to: <http://www.epa.gov/greeningepa/epa-strategic-sustainability-plans>.

- (+\$73.0 / -0.2 FTE) This net program change reflects an increase for the background investigations program and resources critical to funding basic operations and maintenance costs for the EPA's facilities nationwide offset by a decrease in funding to reflect efficiencies achieved through a workforce realignment within the Facilities Infrastructure and Operations program.

Statutory Authority:

Federal Property and Administration Services Act; Public Building Act; Robert T. Stafford Disaster Relief and Emergency Assistance Act; Clean Water Act; Clean Air Act; Resource Conservation and Recovery Act (RCRA); Toxic Substances Control Act (TSCA); National Environmental Policy Act (NEPA); Community Environmental Response Facilitation Act (CERFA); Energy Policy Act of 2005; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Financial Assistance Grants / IAG Management

Program Area: Operations and Administration

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$26,333.8	\$25,296.0	\$28,433.0	\$3,137.0
<i>Hazardous Substance Superfund</i>	\$2,778.5	\$2,895.0	\$3,135.0	\$240.0
Total Budget Authority / Obligations	\$29,112.3	\$28,191.0	\$31,568.0	\$3,377.0
Total Workyears	157.1	161.2	161.2	0.0

Program Project Description:

Superfund resources in the Financial Assistance Grants and Interagency Agreement (IA) Management program support the management of grants and IAs, and suspension and debarment activities. Resources in this program ensure that the EPA's management of grants and IAs meets the highest fiduciary standards, that grant/IA funding produces measurable results for environmental programs, and that the suspension and debarment program effectively protects the government's business interest. These objectives are critically important for the Superfund program, as a substantial portion of the program is implemented through IAs with the U.S. Army Corps of Engineers and the Coast Guard.

FY 2017 Activities and Performance Plan:

In accordance with the overarching 2016-2019 Grants Management Plan, the EPA will continue to implement the Grants Management Transformation Initiative (GMTI) to achieve efficiencies while enhancing quality and accountability. As part of the GMTI, the EPA will invest to modernize grant and IA IT systems based on three components. First, the EPA will migrate away from aging Lotus Notes technology by deploying the Post-Award and Closeout modules of the Next Generation Grants System, develop a new IT system for IAs, and establish a new platform for the Grantee Compliance Database. Second, to eliminate reliance on paper grant files, the agency will move to an electronic system for grants management records. Third, to strengthen grant decision-making, the EPA will enhance the capability of web-based reporting tools such as the Grants DataMart and Quik Reports to provide real-time information to grant managers.

In addition to IT-related investments, the GMTI will focus on reducing administrative burden on EPA and grants' recipient, and on streamlining/standardizing grants management procedures. Specifically, the agency will fully implement: 1) the streamlining reforms in OMB's Uniform Grants Guidance; 2) standardized closeout procedures developed as part of a National Closeout

Lean Event; 3) a new Unliquidated Obligation tool that permits quick identification of grants with little or no financial activity; and 4) an expanded Grants Place of Performance (POP) policy, supported by a user-friendly mapping interface, to provide more accurate and useful locational grant data.

To promote grantee accountability, the EPA will continue to conduct pre-award reviews, indirect cost rate and unliquidated obligation reviews, and administrative advanced monitoring reviews. Under the advanced monitoring program, the EPA will randomly select 75 recipients for review. Advanced monitoring reviews will follow enhanced standard operating procedures developed in response to recommendations from the EPA's Office of Inspector General. The EPA also will conduct two to three Management Effectiveness Reviews of selected offices and assess their programmatic and administrative grants management operations. For IAs, the EPA will continue to administer the IA Shared Service Center and perform annual IA post-award reviews.

The EPA will continue to administer training programs to maintain a skilled grants/IA management workforce, including classroom and on-line training for the agency's grant and IA Project Officers, a comprehensive new training program for the EPA's Grant and IA specialists, and mandatory training for managers and supervisors involved in grants and IA management. Additionally, in FY 2017, the EPA will fully incorporate in its mandatory training program for non-profit recipients the requirements of OMB's Uniform Grants Guidance along with internal control standards that must be contained in recipient financial management policies and procedures. They also strengthen the EPA's ability to identify unallowable costs incurred under assistance agreements and require recipients to reimburse the agency for those costs.

The EPA is a recognized leader in suspension and debarment. The agency will continue to make aggressive use of discretionary debarments and suspensions as well as statutory debarments under the Clean Air Act and Clean Water Act to protect the government's business interests. In FY 2017, the EPA Suspension and Debarment Program anticipates processing over 300 Suspension and Debarment cases. Also, the agency will implement a new internet case management system that will facilitate case processing.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently, agencywide performance measures for this specific program are outlined in the EPA's 2009-2013 Grants Management Plan. In FY 2017, the EPA will issue a new Grants Management Plan that will incorporate GMTI themes and performance measures.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$46.0) This fixed and other costs change reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$194.0) This program change increases resources critical to funding support costs associated with conducting on-site and pre-award reviews of grant recipients. These

resources ensure that recipients possess the capacity and capability to administer assistance awards in accordance with federal regulations and guidelines.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA’s organic statute); Federal Grant and Cooperative Agreement Act; Federal Acquisition Streamlining Act, § 2455.

Acquisition Management

Program Area: Operations and Administration

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$31,443.4	\$30,464.0	\$35,298.0	\$4,834.0
Leaking Underground Storage Tanks	\$160.8	\$145.0	\$138.0	(\$7.0)
<i>Hazardous Substance Superfund</i>	<i>\$20,910.2</i>	<i>\$22,461.0</i>	<i>\$24,468.0</i>	<i>\$2,007.0</i>
Total Budget Authority / Obligations	\$52,514.4	\$53,070.0	\$59,904.0	\$6,834.0
Total Workyears	292.2	304.5	304.8	0.3

Program Project Description:

Superfund resources in the Acquisition Management program support the agency's contracts activities for Superfund Emergency Response and Removal, Remedial, Emergency Preparedness, and Federal Facilities Response programs. These resources enable the agency to assess, cleanup, prepare and respond to natural disasters and terrorist incidents, and to provide financial and technical assistance to state, local, and Tribal governments and other federal agencies.

FY 2017 Activities and Performance Plan:

As part of the EPA's efforts as a High Performing Organization and in accordance with the *Acquisition Workforce Development Strategic Plan*, the EPA will use Superfund resources to strengthen its contract management training program, to improve the EPA Acquisition System's user interface, and to recruit, retain, and hire acquisition workforce in line with the Office of Federal Procurement Policy Act, as amended (41 U.S.C. 401 et seq.).

The EPA's *Strategic Sourcing Program (SSP)* allows the agency to research, assess, and award contract vehicles that will maximize time and resource savings. The SSP serves as a foundation for effective financial and resource management because it simplifies the acquisition process and reduces costs. In FY 2017, the agency will enhance purchase coordination to improve price uniformity, improve knowledge-sharing, and leverage small business capabilities to meet acquisition goals. Based on the strategic sourcing opportunities identified in the EPA's spend analysis, the agency will establish strategic contract vehicles or approaches in FY 2016 to acquire Superfund remediation services, Information Technology application development and support services, and software.

The long-term SSP plan will transform the agency's acquisition process into a strategically driven function, ensuring maximum value for every acquisition dollar spent. The agency has established a goal of obtaining at least five percent savings for all goods and services. In FY 2015, the EPA saved approximately \$2.5 million from initiatives focused on voice over internet protocol (VOIP), laboratory supplies, print, cellular services, shipping, office supplies, remedial action, equipment maintenance, Microsoft and network services.

The Acquisition Management office, which is leading the Centers of Expertise in Contracting initiative, finalized a new organization structure in FY 2014 and began transition to the new structure in late FY 2015. The revised structure will realign the agency's contracting functions within Headquarters and in the Regional Offices to better leverage the agency's limited contracting resources, and improve the timeliness and quality of the agency's contracting operations. This is expected to better support the strategic acquisition of goods and services. In FY 2016, the agency will review and evaluate its achievements from adopting a Centers of Expertise (COE) for contracting approach. The agency will focus on the implementation of cost saving strategies, increased operational efficiencies, and more effective and responsive contracting support. In FY 2017, the EPA will initiate any necessary adjustments identified during the evaluation phase in FY 2016.

Additional benefits of the Centers of Expertise are expected to include opportunities to centralize certain contract planning, placement, and administrative functions and activities to gain efficiencies and improve customer service. Such opportunities include centralizing contracting operations for commonly acquired goods and services like information technology, and certain administrative functions like agencywide closeout activities. Centralizing such activities will increase transparency in acquisition programs and reduce redundant contracts for the same goods and services. Further, it will eliminate non-value added business processes and bring greater consistency to contract procedures. It also will enhance expertise among contracting personnel so they can better understand customers' mission objectives and priorities, the state of the commercial marketplace, and innovative acquisition and management strategies that will greater support the end user.

Finally, the agency will continue to reinforce its contract oversight responsibilities through: the Performance Measurement and Management Program (PMMP), which includes a self-assessment reviews and internal control plan for each contracting office; the associated Contract Management Assessment Program (CMAP) peer reviews, which are performed once every three years; and the annual entity-level A-123 Acquisition Assessment, based on the General Accountability Office's (GAO's) four cornerstones. These programs enable the EPA to identify potential internal control vulnerabilities. In FY 2017, the EPA will continue to perform peer reviews of the agency's Simplified Acquisition Contracting Officers (SACOs).

In FY 2017, OAM will continue to work with the Chief Information Officer (CIO) to implement the Financial Information Technology Acquisition Reform Act (FITARA) by:

- Avoiding vendor lock-in by letting contracts with multiple vendors or confining the scope of the contract to a limited task;
- Driving down out-year operations and maintenance (O&M) costs;

- Ensuring use of Agile development methodologies;
- Ensuring ease of migration from aging technology platforms;
- Avoiding development of duplicative systems;
- Avoiding development of systems otherwise available via Commercial off the Shelf services (COTS);
- Ensuring proper leveraging of shared services and SharePoint platforms; and
- Developing acquisition vehicles that support the agency in the objectives listed above.

Performance Targets:

Work under this program also supports performance results in the Acquisition Management program under the EPM appropriation. These measures can be found in the Eight-Year Performance Array in the Program Performance and Assessment section. In FY 2017, the EPA will issue a new Grants Management Plan that will incorporate GMTI themes and performance measures.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$461.0) This fixed and other costs change reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$1,517.0) This program change increases resources critical to funding basic support costs associated with the EPA Acquisition System (EAS).
- (+\$29.0 / +0.2 FTE) This program change reflects an increase to support a Centers of Expertise for a Contracting Regional Virtual Team. The Contracting Regional Virtual Teams will assist the Regional Offices to better leverage the agency's limited contracting resources, and improve the timeliness and quality of the agency's contracting operations.

Statutory Authority:

Office of Federal Procurement Policy Act; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Human Resources Management

Program Area: Operations and Administration

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$44,408.6	\$43,267.0	\$50,630.0	\$7,363.0
<i>Hazardous Substance Superfund</i>	\$7,683.0	\$6,345.0	\$8,020.0	\$1,675.0
Total Budget Authority / Obligations	\$52,091.6	\$49,612.0	\$58,650.0	\$9,038.0
Total Workyears	217.3	247.1	254.8	7.7

Program Project Description:

Superfund resources for the Human Resources Management program support human capital and human resource services throughout the U.S. Environmental Protection Agency. As requirements and initiatives change, the EPA continually evaluates and improves the Superfund program's human resource functions in outreach, recruitment, hiring, and workforce development to help the agency achieve its mission and ensure management and employee satisfaction.

FY 2017 Activities and Performance Plan:

Human Resources Management touches every part of the agency. Quality staff is critical to maximizing the agency's ability to meet the environmental and human health challenges that face the nation. As part of the agency's efforts as a High Performing Organization (HPO), the agency will continue to implement the comprehensive hiring reform laid out in the Presidential Memorandum *Improving the Federal Recruitment and Hiring Process*, which required executive departments and agencies to "overhaul the way they recruit and hire our civilian workforce." The key facets of the hiring reform are: ease the hiring process while raising the bar on candidate quality; increase engagement of agency leaders in the recruitment and selection process; and monitor agency efforts to increase the speed and quality of hiring. In addition, the agency will continue to support the President's Management Agenda and improve the efficiency of government by increasing the quality and value of core operations and by enhancing productivity to achieve cost savings in mission-support functions, like human capital. The EPA also will expand its efforts to engage employees through ongoing succession management initiatives that will better define career paths for critical positions identified throughout the agency.

The agency will continue to implement the EPA University, which will include a central repository for all agency learning and development. The purpose of the EPA University is to share learning opportunities with employees, encourage shared resources and services across the agency and

increase agencywide collaboration, resulting in enhanced availability of development resources for all staff. It also will enable flexibility as workforce realignments occur and new skills are needed. This process will continue to support the agency's focus on building a HPO while actively marketing internal technical and core competency learning events. Through the EPA University intranet webpage and a Sharepoint site established in FY 2015, which includes a course catalog of current and future internal course offerings, the agency will promote a wide variety of learning opportunities to employees. Further in FY 2015, as part of the agency migration to the DOI's HR shared service center, approximately 4,500 employees participated in a pilot to analyze and test the functionality of DOI's learning management system. Employees from Regional Offices 5 and 8, Human Resources, and the Enforcement and Compliance Assurance programs are actively engaged in the system and will provide recommendations to DOI before the system is opened to all EPA employees. The agency plans to implement the learning management system by the end of FY 2017.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently, there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$60.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs and to ensure adequate funding for workers compensation and unemployment compensation.
- (+\$290.0) This program change includes an increase in contractual services for the EPA University, a central repository for all agency learning and development initiatives that will use technology to engage a wider audience of employees in learning and development opportunities. These resources will fund the on-going redesign of the agency's training and development process, including curriculum management, design and evaluation; enhanced coursework; and improved delivery systems.
- (+\$218.0) This program change includes an increase in contractual services for the EPA's sign language program based on increased demand for sign language translation, an increase in agency contribution fees associated with the OPM data breach, and an increase in fees that the IBC charges the EPA for HRLoB.
- (+\$1,107.0) This program change includes an increase in contractual services to maintain basic human resource operations in HQ and regional offices and support on-going national human resource priorities including training, human capital and strategic planning.

Statutory Authority:

Title 5 of the U.S.C.; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Central Planning, Budgeting, and Finance
Program Area: Operations and Administration

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$74,705.6	\$72,184.0	\$76,674.0	\$4,490.0
Leaking Underground Storage Tanks	\$404.5	\$424.0	\$430.0	\$6.0
<i>Hazardous Substance Superfund</i>	<i>\$23,542.1</i>	<i>\$22,126.0</i>	<i>\$24,025.0</i>	<i>\$1,899.0</i>
Total Budget Authority / Obligations	\$98,652.2	\$94,734.0	\$101,129.0	\$6,395.0
Total Workyears	473.1	493.4	495.4	2.0

Program Project Description:

The EPA's financial management community maintains a strong partnership with the Superfund program. The EPA's OCFO recognizes and supports this continuing partnership by providing a full array of financial management support services necessary to pay Superfund bills and recoup cleanup and oversight costs for the Trust Fund. The EPA's OCFO manages Superfund activities under the Central Planning, Budgeting and Finance program in support of integrated planning, budget formulation and execution, financial management, performance and accountability processes, financial cost recovery, and the systems to ensure effective stewardship of Superfund resources. This program also implements the Digital Accountability and Transparency (DATA) Act of 2014 and Federal Information Technology Acquisition Reform Act (FITARA) of 2015 requirements.

FY 2017 Activities and Performance Plan:

The EPA will continue to provide high-quality resource stewardship to ensure that all agency programs operate with fiscal responsibility and management integrity, are efficiently and consistently delivered nationwide, and demonstrate results. The EPA will continue to provide direction and support for the Superfund program in financial management activities; implementing cost accounting requirements; financial payment and support services; and Superfund-specific fiscal and accounting services. Building on work begun in previous years, the EPA will continue to monitor and strengthen its internal controls. The program also will support the agency's Lean efforts to continue to improve as a high performance organization to support business process changes agencywide. To date, the agency has conducted several Lean events that will streamline and improve financial stewardship across the agency, including the interagency agreement management process, the unliquidated obligation or deobligation process, and is proceeding with recommendations from the software applications Lean processes. The EPA also will continue to

improve accessibility to data to support accountability, cost accounting, budget and performance integration, and management decision-making.

In FY 2017, the EPA will continue to use the performance metrics and OMB FedStat meetings to answer fundamental business questions to mission-support services and opportunities for service improvements. Also in FY 2017, the program will continue to implement FITARA requirements. The Chief Information Officer will be engaged throughout the budget planning process to ensure that IT needs are properly planned and resourced in accordance with FITARA.

In FY 2017, the systems emphasis will be on operations and maintenance of the agency's financial management systems as well as DATA Act coordination and implementation within the defined funding levels. The resources requested for operations and maintenance of the financial systems include funding for implementing technology refreshments and minor enhancements, renewing software licenses, as well as providing refresher and new user training.

In FY 2017, the EPA also will continue to modernize and modify the agency Account Code Structure to improve tracking and reporting capabilities, maximizing the benefits within the new Compass accounting system. Congressional and OMB requirements will be incorporated and the structure will be simplified, eliminating complicated and conflicting data structures and allowing for improved agency-level reporting. Coordinating the updated account structure with other changes to the financial systems will create significant programming and implementation efficiencies.

The EPA began utilizing its Budget Formulation System (BFS) for its FY 2017 budget development process. In FY 2017, the EPA will complete the final phase of developing the BFS, replacing the current Budget Automation System. This final phase will include a more streamlined performance module that facilitates the collection and reporting of performance data to meet the OMB and agency requirements. The new system will incorporate the EPA's new account code structure and interface with the EPA's financial system to facilitate loading the agency's budgets. The plan is for the system to be deployed as a cloud service within the EPA, and as a shared service for other agencies.

The EPA is dedicated to reducing fraud, waste, and abuse and strengthening internal controls over improper payments. Since the implementation of the Improper Payments Information Act of 2002, the EPA has reviewed, sampled, and monitored its payments to protect against erroneous payments. The agency's payment streams are consistently well under the government-wide threshold of 1.5 percent and \$10 million of estimated improper payments. The EPA conducts risk assessments in its principal payment streams, including grants, contracts, commodities, payroll, travel, and purchase cards. When overpayments are identified, they are promptly recovered. The EPA has expanded its risk assessments, performed statistical sampling, set appropriate reduction/recovery targets, and implemented corrective action plans. The agency conducts these activities to reduce the potential for improper payments and ensure compliance with the Improper Payments Information Act, as amended by the Improper Payments Elimination and Recovery Act of 2010 (P.L. 111-204) and the Improper Payments Elimination and Recovery Act of 2012 (P.L. 112-248).

Performance Targets:

Work under this program supports multiple strategic objectives. Currently, there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$679.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$1,220.0) This program change reflects an increase in funding to provide critical contractual resources for the operation and maintenance of financial management systems that support the Superfund program.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat 485 (codified as Title 5, App.) (the EPA's organic statute).

Program Area: Research: Sustainable Communities

Research: Sustainable and Healthy Communities

Program Area: Research: Sustainable Communities

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Promote Sustainable and Livable Communities

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Inland Oil Spill Programs	\$696.4	\$664.0	\$534.0	(\$130.0)
Science & Technology	\$138,347.5	\$139,975.0	\$134,327.0	(\$5,648.0)
Leaking Underground Storage Tanks	\$284.5	\$320.0	\$365.0	\$45.0
<i>Hazardous Substance Superfund</i>	<i>\$14,611.0</i>	<i>\$14,032.0</i>	<i>\$11,463.0</i>	<i>(\$2,569.0)</i>
Total Budget Authority / Obligations	\$153,939.4	\$154,991.0	\$146,689.0	(\$8,302.0)
Total Workyears	476.5	476.3	477.5	1.2

Program Project Description:

The EPA’s Sustainable and Healthy Communities (SHC) research program, under the Superfund appropriation, conducts integrated, trans-disciplinary research which results in decision makers having:

- Engineering tools, methods, and information to assess current conditions at Superfund sites;
- Decision support tools to evaluate the implications of alternative remediation approaches and technologies, and reuse of sites;
- The latest science to support policy development and implementation; and
- Rapid access to technical support through the Research and Development program’s Superfund Technical Support Centers.

In doing so, the SHC research program is responsive to the Superfund law requirements²⁵ for a comprehensive and coordinated Federal “program of research, evaluation, testing, development, and demonstration of alternative or innovative treatment technologies...which may be utilized in response actions to achieve more permanent protection of human health and welfare and the environment.” This research directly addresses the agency’s priority of cleaning up our communities and making a visible difference in those communities.

Recent accomplishments:

- **Provided Essential Technical Support for EPA Regional and Program Offices** – In FY 2015, EPA researchers provided assessment and technical assistance through the Technical Support Centers (TSCs) to over 315 unique requests on 120 contaminated sites in all ten EPA Regions, including Alaska, Hawaii, and Puerto Rico. The EPA’s TSCs mobilize specialized teams of field scientists to help regional offices identify and remediate groundwater, surface water, or soil contamination. Scientists also help evaluate ecological and human health effects

²⁵ 42 U.S.C. § 9660(b).

from chemical exposures. The TSCs are highly regarded by the regional offices for providing a critical link between research and real-world problems.

- **In FY15, ORD completed the *EPA Technical Support Centers (TSC): FY14 Lessons Learned* research summary**, which highlights the impact of three Research and Development program's Technical Support Centers. The summary assesses the TSCs' effectiveness in facilitating faster and more cost effective cleanups for contaminated sites, both nationally and internationally. The document highlights examples of technical support provided to high-profile sites, and gives a brief overview of the types and quantity of services the three centers provide. The report also includes insights on technology applications and success stories from the support provided to communities in the various regions.
- **Completed research on long-term performance of permeable reactive barriers (PRBs) for treating contaminants in groundwater.**²⁶ One major challenge for the use of the PRB technology is the identification of uptake mechanisms in the reactive media and recognizing the implications of these mechanisms for the long-term (>10 years) performance of PRBs installed at hazardous waste sites. The research focused on impacts of mineral precipitation and microbial biomass accumulation on contaminant removal efficiency and hydraulic performance of both iron- and carbon-based reactive barriers. This work demonstrated the potential effectiveness of PRBs beyond ten years, improving its use as an alternative to pump and treat, reducing remedial costs.
- **Completed research on the engineering design and operation of in-situ chemical oxidation systems for groundwater treatment remediation.** Results from this study will be used to develop design guidelines and criteria for: (1) injection well spacing, (2) positioning monitoring wells, (3) establishing reliable monitoring parameters, and (4) assessing treatment performance. This research supports the EPA's Office of Land and Emergency Management (OLEM) and the Regions in developing the engineering and operational guidelines for site cleanups.
- **Completed research on the use of biological measures to assess the effectiveness of sediment remediation at the site and local scale.** Fish collections were conducted at remediated and non-remediated locations to evaluate whether food web transfer of Contaminants of Concern (COCs) is reduced following sediment remediation. Results showed that short-lived fish provide a near-time (1-2 years) indicator of reduced food-web transfer of bioaccumulative materials. In contrast, longer-lived species, such as brown bullheads, serve as indicators of reduced exposure to polychlorinated biphenyl (PCBs), polycyclic aromatic hydrocarbons (PAHs) and other carcinogens. This research assists OLEM and the regions in assessing remedial effectiveness, particularly dredging.

FY 2017 Activities and Performance Plan:

In FY 2017, the SHC research program will continue to provide EPA's remediation project managers and site managers in the EPA's regional offices, as well as community decision-makers

²⁶ <http://www.sciencedirect.com/science/article/pii/S0048969713009704>.

with research that improves their ability to weigh alternatives, and make decisions on cleaning up contaminated sites. SHC research will aid the EPA regional offices in developing and evaluating methods, approaches, and models to assess and manage contamination at Superfund sites.

Beginning in FY 2017, staff in the EPA's Office of Research Development will provide a more limited response to EPA's program and regional offices on site-specific and general technical support at Superfund sites due to the elimination of all extramural funding for the Technical Support Centers. The technical support provided (albeit limited) will come from in-house staff and will continue to assist regional decision makers in setting science-based cleanup levels that protect human health while reducing cleanup costs. This work is request-driven as decision-makers encounter complex hydrogeologic settings, mixtures of contaminants, uncertain pathways of exposure, and performance issues with the tools and technologies available to Superfund policymakers and site managers.

Performance Targets:

Work under this program supports performance results in the Sustainable and Healthy Communities Program under the S&T appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

The EPA has established a standing subcommittee under the Research and Development program's Board of Scientific Councilors (BOSC) for the SHC program to evaluate its performance and provide expert feedback to the agency. In addition, the Research and Development program will meet regularly with both the BOSC and the Science Advisory Board over the next several years to seek their input on topics related to research program design, science quality, innovation, relevance and impact, within the context of the Agency's Strategic Plan. This includes advising the EPA on its strategic research direction with the review of the Research and Development program's recently released Strategic Research Action Plans (StRAPs).²⁷

The EPA also collaborates with several science agencies and the research community to assess our research performance. For example, the EPA is partnering with the National Institutes of Health, National Science Foundation, Department of Energy, and Department of Agriculture. The EPA also works with the White House's Office of Science and Technology Policy and supports the interagency Science and Technology in America's Reinvestment—Measuring the Effect of Research on Innovation, Competitiveness and Science (STAR METRICS) effort.²⁸

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$369.0) This change reflects an increase of \$349.0 to fixed and other costs for the agency recalculation of base workforce costs due to adjustments in salary, working capital fund, and benefits and a net increase of \$20.0 for essential research program support.
- (-\$2,938.0) This program change reflects a significant reduction to the EPA's research on the characterization and treatment of contaminated sediments as well as vapor intrusion. Research

²⁷ EPA Strategic Research Action Plans, <http://www.epa.gov/research/strategic-research-action-plans-2016-2019>.

²⁸ STAR METRICS, <https://www.starmetrics.nih.gov/>.

on groundwater flux-based site management will be curtailed. This also reduces funding for the use of geophysics for rapid site characterization and monitoring of remediation at hazardous waste sites. Extramural support for the Superfund Technical Support Centers is eliminated. After FY 2017, the Centers will be staffed by federal employees without access to contractor support and response times will therefore be longer.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) §§ 102, 104(i), 105(a)(4), 311(c); Superfund Amendments Reauthorization Act of 1986, §§ 209(a), 403.

Program Area: Research: Chemical Safety and Sustainability

Human Health Risk Assessment

Program Area: Research: Chemical Safety and Sustainability
Goal: Ensuring the Safety of Chemicals and Preventing Pollution
Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Science & Technology	\$39,071.5	\$37,602.0	\$39,259.0	\$1,657.0
<i>Hazardous Substance Superfund</i>	\$2,618.7	\$2,843.0	\$2,824.0	(\$19.0)
Total Budget Authority / Obligations	\$41,690.2	\$40,445.0	\$42,083.0	\$1,638.0
Total Workyears	166.3	178.9	177.2	-1.7

Program Project Description:

The EPA's Human Health Risk Assessment (HHRA) research program supports the risk assessment needs of the agency's Superfund programs and regional risk assessors by providing provisional peer-reviewed toxicity values (PPRTVs), rapid risk assessments to respond to emergent scenarios, and technical support via the Superfund Technical Support Center (STSC) and the Ecological Risk Assessment Support Center (ERASC). These assessment tools and activities support risk-based management decisions at contaminated Superfund and hazardous waste sites. Scientists in the HHRA program synthesize the available scientific information on the potential health and environmental impacts of exposures to individual chemicals and chemical mixtures that are in the environment to assist in the agency's goal of taking action on toxics and chemical safety. The implications of these decisions include improvements in human health in the vicinity of Superfund sites, reduction or reversal of damages to natural resources, reduction of harm in emergency situations, improved economic conditions and quality of life in communities affected by hazardous waste sites, improved environmental practices by industry, and advances in science and technology. Priorities for PPRTV development are based on the needs of the EPA's Land and Emergency Management program and are evaluated annually. Applying new data streams, read-across approaches, and computational tools to enhance the supporting data/knowledge bases and efficiency of derivation for PPRTV values is an active area of research in the HHRA program.

Communities near Superfund sites or in emergent situations also are faced with an urgent need for coordinated assistance to assess and address issues of chemical and other environmental contamination, and additionally are now presented with new sensing or monitoring information that is difficult to interpret. The HHRA program develops approaches to respond to these emerging, often crisis-level, chemical/substance issues with scientific information that supports quick action and, ultimately, quick decisions and effective solutions. The HHRA program anticipates developing new assessment approaches by means of an expanded product line to enhance rapid response and screening capabilities and to augment toxicity value derivation procedures for health assessments. Further, the program also is pursuing emerging science related to epigenetics and considerations of susceptibility to characterize and assess cumulative risk. These assessments support the agency's priority to make a visible difference in communities and span the range from state-of-the-science human health assessments to screening level values that help

to focus monitoring and future evaluations. All provide scientific information for the myriad of risk management decisions facing our communities (e.g., regulations, site-specific cleanups). HHRA's assessment work allows the EPA to better understand the possible implications of exposure and predict and reduce risk.

Recent accomplishments include:

- Completed 12 Provisional Peer-reviewed Toxicity Value (PPRTV) documents based on needs and priorities of the EPA's Superfund program;
- Fielded more than 180 requests for scientific support on human and ecological assessment via the STSC and ERASC;
- Provided technical support regarding implementation of the PPRTV on styrene-acrylonitrile (SAN) Trimer to OLEM and Region 2 to assist with risk management decisions for the Toms River contaminated site in New Jersey;
- Worked with the EPA's Region 3 on the West Virginia spill of 4-methylcyclohexanemethanol (MCHM) to develop an inhalation value in anticipation of tank removal at the Elk River chemical spill site; and
- In consultation with the EPA's Region 8 provided analyses to support decisions regarding the release of contaminated water into the Animas River from the Gold King mine site.

FY 2017 Activities and Performance Plan:

The EPA's HHRA program will continue to engage important stakeholders and the scientific community to identify and develop health hazard assessments for the highest priority chemicals of relevance to Superfund site assessments and remediation. In FY 2017, the program will develop and support these assessments through the following activities:

- Provide 12 additional Provisional Peer-reviewed Toxicity Values (PPRTV) assessments as prioritized by the Office of Land Emergency Management (OLEM) to support risk-based decision making at Superfund sites and hazardous waste sites. This work improves the EPA's ability to make decisions and address site related environmental health problems;
- Continue to provide consultative technical support, in collaboration with the Sustainable and Healthy Communities (SHC) program, to the Superfund support centers. The HHRA program directly supports the Superfund Technical Support Center (STSC) and the Ecological Risk Assessment Support Center (ERASC) and these Centers receive hundreds of requests annually from EPA Regions and States for scientific support;
- Continue essential technical assistance across the EPA to provide rapid risk assessments, combining problem formulation and state-of-the-art exposure information and tools with hazard information, chiefly through the continued improvement of the derivation basis for PPRTVs for evaluating chemical specific exposures at Superfund sites, and by evaluating case-specific information related to emergent situations;

- Incorporate and characterize the utility of new data streams such as high-throughput screening (HTS) data and other emerging data mining approaches as applied to prioritization, rapid risk screening and assessment; and
- Advance cumulative risk assessment (CRA) approaches and methods to characterize the interaction of multiple stressors, assess ecological risk, evaluate epigenetics, consider susceptibility factors, and apportion risk across exposure routes and receptors to better support “place-based” assessments, address community concerns, and characterize sustainability.

Performance Targets:

Work under this program also supports performance results in Human Health Risk Assessment program under the S&T appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

The EPA has established a standing subcommittee under the EPA’s Board of Scientific Counselors for the Chemical Safety for Sustainability area that will be utilized to evaluate the research dimensions of the HHRA program as part of its performance and provide expert feedback to the agency. In addition, the EPA will meet regularly with both the Board of Scientific Counselors and Science Advisory Board over the next several years to seek their input on topics related to research program design, science quality, innovation, relevance and impact, within the context of the agency’s Strategic Plan. This includes advising the EPA on its strategic research direction with the review of the agency Research and Development program’s recently released Strategic Research Action Plans (StRAPs).²⁹

The EPA collaborates with several science agencies and the research community to assess our research performance. For instance, the EPA is partnering with the National Institutes of Health, the National Science Foundation, the DOE, and the USDA. The agency also will work with the White House’s Office of Science and Technology Policy. The EPA supports the interagency Science and Technology in America’s Reinvestment—Measuring the Effect of Research on Innovation, Competitiveness and Science (STAR METRICS) effort. This interagency effort is helping the EPA to more effectively measure the impact federal science investments have on society, the environment, and the economy.³⁰

²⁹ EPA Strategic Research Action Plans, <http://www.epa.gov/research/strategic-research-action-plans-2016-2019>.

³⁰ STAR METRICS, <https://www.starmetrics.nih.gov/>.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$2.0) This change reflects an increase to fixed and other costs for the agency recalculation of base workforce costs due to adjustments in salary, working capital fund, and benefits.
- (-\$21.0) This program change reduces research related to the risk assessment needs of the agency's superfund programs and regional risk assessors.

Statutory Authority:

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); Clean Air Act (CAA) §§ 103, 108, 109, 112; Clean Water Act (CWA) §§ 101(a)(6), 104, 105; Federal Insecticide Fungicide and Rodenticide Act (FIFRA) § 3(c)(2)(A); Food Quality Protection Act (FQPA); Safe Drinking Water Act (SDWA); Toxic Substances Control Act (TSCA), §§ 4(b)(1)(B), 4(b)(2)(B).

Program Area: Superfund Cleanup

Superfund: Emergency Response and Removal

Program Area: Superfund Cleanup

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Restore Land

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Hazardous Substance Superfund</i>	<i>\$191,026.5</i>	<i>\$181,306.0</i>	<i>\$185,233.0</i>	<i>\$3,927.0</i>
Total Budget Authority / Obligations	\$191,026.5	\$181,306.0	\$185,233.0	\$3,927.0
Total Workyears	252.8	243.7	243.7	0.0

Program Project Description:

The EPA's Superfund Emergency Response and Removal program (SF Removal) responds to incidents involving release of hazardous substances, pollutants or contaminants, regardless of cause. The EPA's SF Removal program ensures responders to imminent threats on land or inland waterways have the most up-to-date information and the most effective tools to contain or remove these substances. These tools are provided through training, on-site technical expertise, and coordination with other emergency responders. The SF Removal program is the "backbone" or foundation of national response, and as such, it is a capability that is essential to national resilience. The White House has identified this program as the agency's only Primary Mission Essential Function (PMEF).

The SF Removal program has valuable expertise that assists in the response, prevention, and preparedness activities associated with the potential releases of chemical, oil, and hazardous substances, discharges to our inland waterways, or any other type of hazard. The program assists with multi-media training and exercise development/implementation for responders which establish and sustain coordination with states, local communities, tribes, and other federal officials. In addition, the SF Removal program provides technical assistance and outreach to industry, states, tribes, and local communities as part of the agency's effort to ensure national safety and security for chemical and oil incidents.

Response requirements arise as a result of: natural disasters such as major flooding, hurricanes and tornados; industrial contamination such as hazardous substance releases to air, water, or soil; accidents; and acts of terror. Responses are needed in order to contain and remove hazardous substances but also may be undertaken to address chemical, biological, and/or radiological agent contamination. From FY 2009 to FY 2015, the EPA completed or oversaw nearly 2,500 removal actions across the country. These cleanups were of varying complexity and contained a wide range of contaminants that posed a threat to human health and the environment. The figure below shows common contaminants at removal actions from FY 2013 through FY 2015.

Rank	FY13 Contaminants of Concern	Number of completions	FY14 Contaminants of Concern	Number of completions	FY15 Contaminants of Concern	Number of completions
1	Lead	58	Mercury	59	Mercury	41
2	Mercury	56	Lead	40	Asbestos	28
3	Chromium	33	Asbestos	30	Lead	22
4	Flammables	29	Flammables	27	Arsenic	13
5	Asbestos	28	Arsenic	23	PCE	10
6	Acids	26	Waste oil	23	Acids	8
7	Cyanide	25	Acids	22	PCBs	7
8	PCBs	20	PCBs	21	TCE	6
9	TCE	17	Chromium	14	Flammables	5
10	VOC	17	VOCs	14	Paint Waste	5

The EPA’s On-Scene Coordinators (OSCs) make up the core of the SF Removal program and they respond to and/or provide technical assistance on a regular basis. This assistance is carried out in support of local, state, and Tribal first responders and can bring broader expertise to manage certain types of emergency responses. Responding to and removing the source of contamination is vital to the health and well-being of the impacted community, and the EPA’s role as this “safety net” is a fundamental part of the national response system. The EPA’s support is heavily relied upon by states, Tribal, and local communities to deal with environmental emergencies.

The SF Removal program trains, equips, and deploys agency assets in order to manage, contain, and remove multi-media hazardous substances, contaminants and oil. If left unaddressed, these contaminants will pose an imminent threat to public health and/or have a critical environmental impact on communities. The EPA’s 24-hour-a-day response capability is a cornerstone element of the National Contingency Plan (NCP). The White House also utilizes the SF Removal program to support the agency’s sole PMEF in the case of a catastrophic emergency. Specifically, the agency’s only PMEF is to prevent, limit, mitigate, or contain chemical, oil, radiological, biological, and hazardous materials released during and in the aftermath of an accident, natural, or man-made disaster in the United States and provide environmental monitoring, assessment, and reporting in support of domestic incident management as part of the National Response Framework (NRF).

The SF Removal program has been consistently used to complement several response areas including agency oil and Superfund homeland security activities.³¹ SF Removal resources address releases that pose an imminent threat to public health or welfare and the environment while the Superfund Remedial program addresses more long-term cleanup activities. SF Removal partners with the SF Remedial program, as needed, for assessment and site cleanup activities involving National Priorities List (NPL), non-NPL, and potentially responsible party (PRP) actions.

The SF Removal program also is available to support other elements of the EPA (such as the Brownfields, Oil Spill, and Homeland Security programs); other federal partners such as the

³¹ The EPA’s Superfund Homeland Security Preparedness, Response and Recovery program, in turn, has developed into providing technical expertise, assets, and support during nationally significant incidents.

Department of Homeland Security, United States Coast Guard (USCG), and the Federal Emergency Management Agency under the NRF; and state, Tribal, and local first responders. These parties will often turn to SF Removal program personnel as subject matter experts and “reach back” liaisons into the rest of the EPA and into the larger federal support capability. For instance, in FY 2015, the SF Removal program played a vital role in the support of our federal interagency partners in the response to the increase in crude oil transportation accidents. In this sense, SF Removal personnel have become a critical element of the emergency response capability in communities all across America and are performing a vital service in support of national resiliency at the grassroots level and on a day-to-day basis, creating a model for interagency and cross-government cooperation.

FY 2017 Activities and Performance Plan:

The FY 2017 Superfund Removal program requests an increase of \$3.9 million from the FY 2016 Enacted Budget. The request provides critical resources to support the EPA’s ability to quickly respond to multiple simultaneous emergencies and to assist with more comprehensive, resource-intensive, time critical cleanup actions. With this increase, the EPA will be able to quickly assess, mitigate, and cleanup 5-7 additional emergency removals or 2-3 additional time critical removal actions.

In FY 2017, the SF Removal program will continue to respond and conduct site removal actions based upon the risk to human health and the environment. The EPA will continue to strengthen its ability to quickly respond by expanding trainings for personnel with technical knowledge on harmful substances, health and safety issues, complex options and the utilization of emerging technologies. The program also will provide response support to federal, state, Tribal, local, and PRPs when their response capabilities are exceeded. These efforts support the agency’s cross-agency strategy: Making a Visible Difference in Communities. The resource request will support the core functions of the program to respond to oil spills, chemical, biological, radiological releases, and large-scale national emergencies

The EPA will continue to respond to and/or provide support for emergency responses, removal assessments, and cleanup response actions at NPL and non-NPL sites. The EPA also will continue to conduct multi-media training for federal OSCs to develop, enhance, and specialize their technical skills and expertise in chemistry, biology, hydrology, geology, etc., to respond to, assess, mitigate, and clean up releases which present unique challenges. In addition, the EPA will continue evaluating practices and consider any lessons learned.

The EPA will continue to maintain the Emergency Management Portal (EMP) modules and support the maintenance of the computer generated, emergency planning and response tools for first responders. EMP ties together prevention, preparedness, and response information to allow the EPA’s emergency management community access to information they need to respond to and efficiently store decontamination related data and track field personnel, equipment, and reconnaissance data from large and small sites. During large-scale incidents, the public can view site-related data on a daily basis.

The EPA will continue to support the National Response Center (NRC), which is the federal entry point for reporting all oil and chemical discharges into the environment anywhere in the United States and its territories. The NRC serves as the sole 24-hour-a-day contact point to receive incident reports under the National Response System and disseminate reported release reports to the responding federal OSC. Each year headquarters and regional emergency operations centers receive approximately 30,000 incident report notifications from the NRC. The EPA also will continue to provide resources when a USCG federal OSC performs a hazardous substance response under the NCP.

The Environmental Response Team (ERT) was established to fill the role as the agency scientific support coordinator. The ERT provides assistance at the scene of hazardous substance releases, offering expertise in such areas as treatment, biology, chemistry, hydrology, geology, and engineering. In FY 2017, the ERT will continue to provide support for the full range of emergency response actions, including unusual or complex emergency incidents. In such cases, the ERT brings in special equipment and provides the OSC or lead responder with knowledge and advice.

Performance Targets:

Measure	(137) Number of Superfund removals completed.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target						275	275	275	Removals
Actual						278			

Measure	(C1) Score on annual Core NAR.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	55	60	70	72	75	80	82	83	Percent
Actual	87.9	77.5	75.8	82.2	78.3	Data Avail 3/2016			

The EPA will continue to implement its annual assessment of its response and removal preparedness via the Core National Approach to Response (Core NAR) assessment, which grew out of its Core Emergency Response program and assessment. Core NAR addresses day-to-day preparedness for removal actions for Regional Offices, Special Teams, and Headquarters. In FY 2017, the EPA will target a score of 83 on the annual Core NAR, one point higher than the FY 2016 target and five points higher than the FY 2014 result.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$897.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$3,030.0) This program change increases critical resources to support the EPA’s ability to quickly respond to multiple simultaneous emergencies and to assist with more comprehensive, resource-intensive, time critical cleanup actions. With these resources, the EPA will be able to quickly assess, mitigate, and cleanup 5-7 additional emergency removals or 2-3 additional time critical removal actions.

Statutory Authority:

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

Superfund: EPA Emergency Preparedness

Program Area: Superfund Cleanup

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Restore Land

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Hazardous Substance Superfund</i>	\$8,248.3	\$7,636.0	\$7,931.0	\$295.0
Total Budget Authority / Obligations	\$8,248.3	\$7,636.0	\$7,931.0	\$295.0
Total Workyears	36.5	37.4	37.4	0.0

Program Project Description:

The Superfund Emergency Preparedness program ensures federal agencies are prepared to respond to accidental releases of contaminants. The EPA’s leadership in federal preparedness includes chairing the 15-agency National Response Team (NRT) and co-chairing with the U.S. Coast Guard the 13 Regional Response Teams (RRTs) throughout the U.S. and trust territories. These teams coordinate the actions of federal, state, local, and Tribal partners to prevent, prepare for, and respond to emergencies, and provide an all hazard response capability. The Superfund Emergency Preparedness program supports the agency’s themes of building more efficient and cost-effective state, Tribal, and local partnerships and protecting human health and the environment by assisting with the development of Area Contingency Plans and other prevention and preparedness guidance documents that serve a critical role in coordinating and expediting community response when environmental emergencies and disasters do occur.

The EPA implements the Emergency Preparedness program in coordination with the Department of Homeland Security (DHS) and other federal agencies in order to deliver federal hazard assistance to state, local, and Tribal governments during natural disasters and terrorist incidents. The agency carries out this responsibility under multiple statutory authorities as well as the National Response Framework (NRF), which provides the comprehensive federal structure for managing national emergencies. The EPA is the designated lead for the NRF’s Oil and Hazardous Materials Response Annex - Emergency Support Function #10 which covers responsibilities for responding to releases of hazardous materials, oil, and other contaminants that are a threat to human health and the environment. As such, the agency participates and leads applicable interagency committees and workgroups to develop national planning and implementation policies at the operational level.

The EPA is designated as the lead agency for the National Response System (NRS), the nation’s comprehensive environmental program which integrates emergency preparedness and response to risks. The NRS, established over 40 years ago, assures that federal, state, Tribal, local, and private responders are linked through emergency planning and preparedness functions. Area Committees, Local Emergency Planning Committees, and Regional Response Teams provide avenues for oil, hazardous materials community, and facility preparedness and readiness to ensure that response activities are coordinated and organized in a manner that maximizes the efficiency and

effectiveness of planning for risks and execution of the plan. This leadership and the resulting community preparedness is an essential element of national resiliency, and is a model for efforts now being launched under the broader Homeland Security effort. The EPA continues to work closely with DHS and other federal partners in developing similar levels of community preparedness focused on security concerns and reducing their level of risk.

As a major part of a national infrastructure designed to respond to and protect human health and the environment, the Superfund (SF) programs have valuable expertise that would assist in the response, preparedness and prevention activities associated with the safety and security of potential releases of chemical, oil, and hazardous substances, discharges to our inland waterways, or any other type of hazards. The program assists with multi-media training and exercise development/implementation, as well as increasing coordination with states, local communities, Tribes, and other federal officials. In addition, the SF programs may provide technical assistance, resources, and outreach to industry, states, and potentially vulnerable communities as part of the agency's effort to ensure national safety and security for chemical and oil incidents.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA's preparedness activities will address key priority lessons learned from actual responses. This may include training and exercise development/implementation; increasing coordination with states, local communities, tribes, and other federal officials with the development of Area and Regional Contingency Plans; and providing technical assistance and outreach to industry, states, and local communities. The agency will continue to fulfill its duties under the NRF, while reviewing many core business practices to be more efficient.

The EPA will continue to lead the NRT and co-chair the 13 RRTs throughout the United States. The NRT and RRTs coordinate federal partner actions to prevent, prepare for, respond to, and recover from releases of hazardous substances, oil spills, terrorist attacks, major disasters, and other emergencies, whether accidental or intentional. The NRT and the RRTs are the only active environmentally-focused interagency executive committees focused on addressing oil and hazardous substance emergencies. They serve as multi-agency coordination groups supporting our responders when convened as incident specific teams.

In FY 2017, the EPA will participate in multiple regional and multi-agency full scale exercises involving natural disasters. Building on the large scale federal investment to better structure responses that have taken place since the Deepwater Horizon oil spill and Superstorm Sandy, as well as current efforts to enhance national emergency response management, the EPA and its partner NRT agencies will continue implementation of the National Incident Management System and the NRF. The EPA and its partner NRT agencies also will strive to continuously improve notification and response procedures, develop response technical assistance documents, implement and test incident command/unified command systems across all levels of government and the private sector, and assist in the refinement of Regional Contingency Plans and Area Contingency Plans.

The EPA will continue to provide staff support during national disasters, emergencies, and high profile and large-scale responses carried out under the NRF. When activated under the NRF, the

EPA supports incident-specific activities at the NRT, RRTs, Domestic Resilience Group, and the National Operations Center. Unlike day-to-day preparedness operations, the EPA's surge support during a nationally significant or incident-specific response is generally funded through the Stafford Act or various trust funds. Additionally, the EPA may support corrective action recommendations that result from internal or external reports in order to provide a unified response.

Performance Targets:

Work under this program supports performance results in the Superfund Emergency Response and Removal program under the Superfund Appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$163.0) This change to fixed and other costs reflects the recalculation of base workforce costs for existing FTE due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$132.0) This program change reflects an increase in the EPA's involvement on national and local committees and subcommittees. The EPA will continue to maintain its national leadership responsibilities for those groups.

Statutory Authority:

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), §§ 104, 105, 106; Robert T. Stafford Disaster Relief and Emergency Assistance Act.

Superfund: Federal Facilities

Program Area: Superfund Cleanup

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Restore Land

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Hazardous Substance Superfund</i>	\$23,212.2	\$21,125.0	\$26,770.0	\$5,645.0
Total Budget Authority / Obligations	\$23,212.2	\$21,125.0	\$26,770.0	\$5,645.0
Total Workyears	108.6	111.7	111.7	0.0

Program Project Description:

The EPA’s Superfund Federal Facilities program is responsible for overseeing the protective and efficient cleanup and reuse of federal facilities sites on the National Priorities List (NPL) and provides technical assistance at non-NPL sites, as requested by other federal agencies and states. After years of service and operation, some federal facilities contain environmental contamination, such as hazardous wastes, unexploded ordinance, radioactive wastes, or other toxic substances. Federal agencies with jurisdiction over these sites are required to identify the risks associated with the contamination, implement remedies to address the contamination, and provide for long-term stewardship of any future threats to public health from hazardous substances that remain after a remedy is in place. As a result of these actions, the public exposure to contaminants from munitions and other hazardous chemicals is reduced improving the health and welfare of facility personnel and nearby residents. Additionally, ecological reuse returns polluted or otherwise disturbed land to a functioning and sustainable use by increasing or improving habitat for plants and animals.

Federal facilities under this program include various types of sites, such as active, realigning, and closed military installations, current and former nuclear weapons production facilities, landfills, and Formerly Used Defense Sites (FUDS). Often, the EPA and the other federal agencies implementing the remedies face unique challenges due to the types of contamination present, the size of the facility, the extent of contamination, ongoing facility operation needs, complex community involvement requirements, and complexities related to the redevelopment plans for the facilities.

The EPA fulfills a number of statutory and regulatory obligations at federal facilities, including assessing sites for potential listing on the NPL, conducting oversight at NPL sites where cleanup is being completed by other federal agencies, such as the Department of Defense (DoD) and the Department of Energy (DOE), approving property transfers, and maintaining the Federal Agency Hazardous Waste Compliance Docket (Docket). The EPA’s oversight authority, primarily exercised at NPL sites, provides a review of federal cleanups that ensures work being conducted by other federal agencies is consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), and the site cleanup plans and is protective of human health and the environment. The EPA, as required by CERCLA, is responsible for activities such as: 1)

reviewing and approving site cleanup documents; 2) participating in site meetings with the affected communities; 3) making final remedy selection decisions at NPL sites consistent with the requirements of CERCLA; and 4) monitoring remediation schedules. Decision documents, which support final remedy selection, are subject to statutorily required review and assessment by the EPA to ensure protection of human health and the environment from hazardous substances. The EPA's role provides substantive value in assisting other federal agencies in achieving their program cleanup goals.

The Superfund Federal Facilities program ensures compliance with certain statutory responsibilities related to the transfer of contaminated federal properties. The EPA's authority for property transfers includes the approval for transfers prior to implementation of remedies (i.e., early transfer at NPL sites) and for determinations that remedies are Operating Properly and Successfully (OPS) at both NPL and non-NPL sites.³²

Munitions sites, emerging contaminants, and newly identified exposure pathways, such as vapor intrusion, also require direct agency oversight as federal agencies reopen various site assessment and cleanup activities to address such contamination. There has been an increasing number of sites in the Superfund program where emerging contaminants, such as perfluorinated compound releases, have been detected at levels of concern. The Federal Facilities program is actively engaged in evaluating and addressing these contaminants at federal facilities and working with our federal partners to identify the next steps for emerging contaminants.

The Federal Facilities program continues to develop and implement innovative technologies, processes, and collaboration efforts. By working in concert with other federal agencies, the EPA continues to promote the advancement of innovative cleanup technologies and expansion of contaminated land reuse to support renewable energy projects, and multiple initiatives to support sustainability. These demonstration projects not only help support the agency's goal to cleanup communities and advance sustainable development but they also facilitate the introduction of innovative solutions to both the public and private sector.

Since program inception, the program has achieved 44 percent site-wide construction complete and the percent construction complete measure demonstrates that over 80 percent of the incremental construction progress is complete. While significant progress has been made, the most complex federal facilities sites remain to be cleaned up. The Federal Facilities program will continue to work with our federal partners to target high priority sites, to consider best practices, to develop innovative solutions to emerging and unique contaminants, and to implement strategies to address the remaining federal facility sites that have not reached cleanup completion.

FY 2017 Activities and Performance Plan:

In FY 2017, with an increase of \$5.6 million, the EPA will use these resources to meet statutory CERCLA obligations; to ensure protectiveness of human health and the environment; and to work collaboratively with communities, states and other federal agencies to provide technical support at both NPL and Non-NPL sites, as requested. The EPA also will continue to work with the other agencies to review cleanup schedules and issue Records of Decisions (RODs) which are public

³² For more information about the program, please refer to <http://www.epa.gov/fedfac>.

documents that evaluate and select cleanup alternatives. In addition, the EPA will continue strengthening oversight and technical assistance at DoD's military munitions response sites. The EPA supports DoD's development of new technologies to streamline munitions cleanups. The newly emerging classification technology may save DoD significant resources over conventional technologies and accelerate cleanup of sites, but will require more extensive EPA oversight to ensure protectiveness.

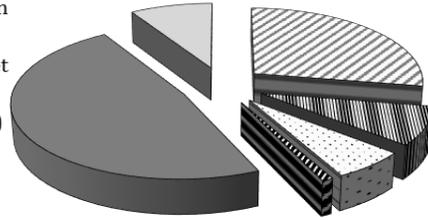
In FY 2017, the EPA will continue to oversee the complex cleanups at federal facility sites, such as hazardous substances in groundwater, munitions and explosives of concern (MEC), and contamination from legacy nuclear weapons development and energy research, at the sites that remain. Since 1989, DOE has completed cleanup work at 90 percent of its sites. DOE estimates that the 16 remaining sites, part of the nuclear legacy of the Cold War, groundwater, soil and waste processing will take decades to complete. Similarly, DoD's inventory includes over 300 operable units containing MEC that still require investigation. These sites contain unique chemical and explosive compounds and present cleanup challenges in addition to the explosive potential which require special handling, storage and disposal practices.

In FY 2017, the EPA will continue to modernize access to the Federal Agency Hazardous Waste Compliance Docket consistent with CERCLA Section 120(c)(3). The Federal Facilities Site Activity chart represents the known universe of hazardous substances released into the environment at federal facilities, active remediation classified by NPL versus Non-NPL status and construction completed at NPL federal facilities.

Superfund Federal Facilities Site Activity

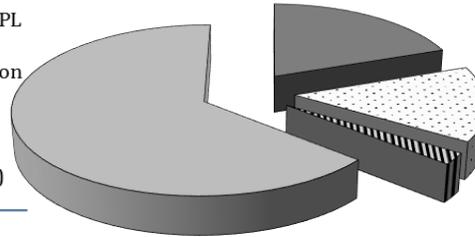
2,415 Federal Facility Universe

- ☐ Active Docket Non NPL (669)
- ▣ Active Non Docket Non NPL (201)
- ☐ NPL Docket (151)
- ▣ NPL Non Docket (23)
- ▣ Archived Docket (1,160)
- ☐ Archived Non Docket (211)



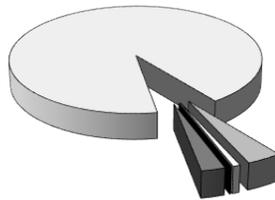
1,044 Active Federal Facilities

- ☐ Active Docket Non NPL (669)
- ▣ Active Non Docket Non NPL (201)
- ☐ NPL Docket (151)
- ▣ NPL Non Docket (23)



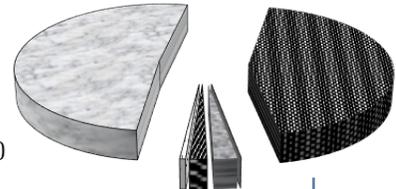
870 Active Non NPL Federal Facilities

- ☐ Study Pending (805)
- ▣ Study Underway (34)
- ☐ Remedy Selected (7)
- ▣ Design Underway (1)
- ▣ Construction Underway (23)



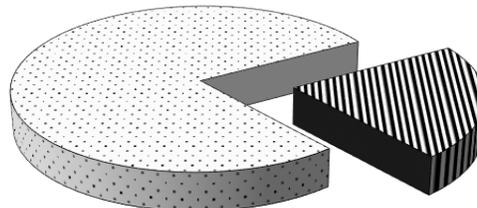
174 NPL Federal Facilities

- ☐ Study Pending (0)
- ▣ Study Underway (4)
- ▣ Remedy Selected (3)
- ☐ Design Underway (1)
- ☐ Construction Underway (89)
- ▣ Construction Completed/Deleted (77)



77 Construction Completed Federal Facilities

- ▣ CC and Deleted (17)
- ☐ CC and not Deleted (60)



Progress is determined by most advanced operable unit. Chart results generated from SEMS data, EOY 2015

To ensure the long-term protectiveness of the remedies, the EPA will continue monitoring, overseeing progress, and improving the quality and consistency of five-year reviews conducted at federal sites where waste has been left in place and land use is restricted. Five-year reviews are required under Section 121(c) of CERCLA and the EPA’s role is to concur or make its own independent protectiveness determination. The EPA has been working collaboratively with DoD, DOE, and Department of the Interior (DOI) through a federal workgroup to improve the technical quality, timeliness, and cost burden of the five-year review reports, and to ensure that the community is aware of the protectiveness status. In FY 2017, the EPA will review approximately 35 federal NPL five-year review reports in order to fulfill statutory requirements and to inform the public regarding the protectiveness of remedies at those NPL sites. The Federal Facility program also will evaluate the implementation of the August 2011 policy memorandum “Program Priorities for Federal Facility Five-Year Reviews” to ensure that five-year review reports are completed by the statutory deadline and that recommendations in the reports are being tracked, monitored, and implemented by the federal agencies.³³

The Superfund Federal Facilities program also will continue to focus on cleanups at NPL federal facilities and putting the sites back into productive use while protecting human health and the environment. There are currently 174 federal sites on the NPL. The large size of the federal sites contributes approximately 40 percent of the operable units to Superfund pipeline accomplishments. As of the end of 2015, the Superfund Federal Facilities program signed 34 of the 57 (60 percent) Records of Decisions at all Superfund NPL sites; started 32 of the 97 (33 percent) Remedial Action Projects; and completed 47 of the 94 (50 percent) Remedial Action Projects within the entire Superfund NPL program.

The Base Realignment and Closure (BRAC) Interagency Agreement (IA), which was signed on February 28, 2011, is set to expire on September 30, 2016. The agency will no longer receive DoD funding for oversight at selected BRAC installations that were closed during the first four rounds (BRAC I - IV). The Federal Facilities program oversight functions typically include, but are not limited to, meeting and expediting statutory obligations for overseeing cleanup and ensuring remedy protectiveness after property transfer of closed installations. The EPA will use its appropriated funding to continue its work at NPL BRAC sites. The FY 2017 President’s Budget request does not include support for BRAC-related services to DoD.

Performance Targets:

Measure	(FF1) Percent of Superfund federal facility sites construction complete.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target					86	87	88	88	Percent
Actual					TBD	TBD			

The Superfund Federal Facilities program’s ability to meet its annual performance targets relies on work performed by responsible federal agencies at NPL sites. The percent construction complete measure demonstrates incremental construction progress at federal NPL sites which are not already designated site-wide construction complete. The measure is based on the average of

³³ See <http://www.epa.gov/fedfac/five-year-review-federal-facility-cleanups> for a copy of the 2011 memorandum and 2012 correction.

three specific factors: 1) operable unit (OU) percent complete; 2) total cleanup actions percent complete; and 3) duration of cleanup actions percent complete (national cumulative). While projected targets have been identified for fiscal years 2015-2017, the complete data set needed to accurately estimate targets, and to calculate results, at federal Superfund NPL sites are not currently available through the agency's Superfund Enterprise Management System (SEMS). Improvements planned for SEMS during FY 2016 will facilitate accurate results reporting that will inform performance estimates for this measure.

Work under this program also supports performance results in the Superfund Remedial program under the Superfund Appropriation. These measures can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$281.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$5,364.0) This program change reflects an increase in essential core program resources to improve the EPA's ability to meet statutory CERCLA obligations; to ensure protectiveness of human health and the environment; and to work collaboratively with states and other federal agencies at NPL sites, such as working on cleanup schedules established under site-specific FFAs and reviewing RODs. This also will increase resources to provide technical assistance to other federal agencies and states, as requested, at non-NPL sites.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), § 120.

Superfund: Remedial

Program Area: Superfund Cleanup

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Restore Land; Preserve Land

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Hazardous Substance Superfund</i>	<i>\$560,891.9</i>	<i>\$501,000.0</i>	<i>\$521,043.0</i>	<i>\$20,043.0</i>
Total Budget Authority / Obligations	\$560,891.9	\$501,000.0	\$521,043.0	\$20,043.0
Total Workyears	902.0	868.8	868.8	0.0

Program Project Description:

Across the United States, thousands of communities are affected by the health and environmental consequences of legacy contamination. The EPA’s Superfund Remedial program remediates many of the most contaminated sites in the United States. The program conducts long term cleanup work, as well as oversees response work conducted by potentially responsible parties (PRPs) at Superfund National Priorities List (NPL) sites. Cleanup activities include characterizing the degree and scope of contamination from releases of hazardous substances, pollutants and contaminants to the environment, developing cleanup strategies, designing and constructing remedies, and conducting long-term operation and monitoring of remedies.

The Superfund Remedial program protects and restores the nation’s precious and limited groundwater and surface water resources. The Remedial program also addresses exposure to contaminated soil through a variety of methods. The human health benefits of remediating contaminated sites include reduced mortality and reduced morbidity risk from asthma, cancer, birth defects, adverse reproductive or developmental disorders, and other illnesses or injuries. The economic benefits to communities from site reuse include local job creation, green space preservation, property value increases, and local tax base enhancements. Ecosystems also are improved by addressing pollutants from contaminated sites and protecting drinking water supplies and/or fishery habitats.

Superfund sites exist in thousands of communities across the United States, ranging from remote rural areas to large urban settings. During its 35 year history, the Superfund Remedial program has examined more than 52,000 potential releases. Fewer than 2,000 of those have been placed on the NPL which makes them eligible for remedial action funding from the Hazardous Substance Superfund Trust Fund. The size and complexity of Superfund sites vary widely. A site may have a very small footprint or may cover thousands of acres (land, groundwater and/or water bodies). Contaminated media at a Superfund site might include soils, buildings, sediments, surface water, air, and/or groundwater. Cost and time to clean up Superfund sites vary widely depending on the degree, type, and location of contamination. On average, a typical NPL site will cost around \$15 million; however some of the larger, more complicated sites will cost more than \$100 million by the time they are completed. A few sites, such as the Passaic River Site in New Jersey and the Bunker Hill Site in Idaho, have the potential to exceed \$1 billion by the end of all the necessary

site work. Cleanup actions can take from a few months for a relatively straight-forward soil excavation or capping remedy to multiple decades for complex, area-wide groundwater, sediment, or mining remedies.

Program Outcomes:

Population Impacts:

To help describe who benefits from the Superfund Remedial program's cleanup work, the EPA collected data on the population living within three miles of Superfund final and proposed NPL sites, as well as non-NPL sites with Superfund Alternative Approach (SAA) agreements in place. The SAA sites have to follow the same National Oil and Hazardous Substances Pollution Contingency Plan (NCP)³⁴ processes as NPL sites. In looking at the census data, the agency found that approximately 53 million people live within three miles of a Superfund site (roughly 17 percent of the U.S. population and 18 percent of all children in the U.S. under the age of five).³⁵ Compared to the general public, communities located near Superfund sites are more likely to be minority, lower income, and linguistically isolated, and less likely to have a high school education. As a result, these communities may have fewer resources with which to address concerns about their health and environment.

Human Health Benefits:

In a recent study, Columbia University, Massachusetts Institute of Technology (MIT), and University of California Berkeley researchers found that Superfund cleanups reduce the incidence of congenital anomalies by roughly 20-25 percent among infants born to mothers living within 2,000 meters of a site.³⁶ The EPA has made significant progress in protecting people living near Superfund sites. As of FY 2013, approximately 8 million people live within a mile of a Superfund site where human exposure to contamination has been controlled. This includes approximately 2 million children under the age of 18.³⁷ The human health threats addressed by Superfund cleanups include lead contamination of residential soil, which can cause elevated blood levels in children. At the Tar Creek Site in Oklahoma, before cleanup, 21.7 percent of children less than 6 years old, the most vulnerable life stage, had significant elevated blood lead concentrations. After critical pieces of the remediation were conducted, including replacing contaminated soil, providing health education to the community, and relocating residents, blood lead concentrations have been reduced so that no children have blood lead above the target level.

Economic Benefits:

Working collaboratively with partners across the country, the EPA engages communities in site cleanup decisions, fosters redevelopment and employment opportunities in communities during and after remedy construction, preserves green infrastructure, and protects human health and the

³⁴ For additional information, refer to: <http://www.epa.gov/emergency-response/national-oil-and-hazardous-substances-pollution-contingency-plan-ncp-overview>.

³⁵ U.S. EPA, Office of Solid Waste and Emergency Response Estimate. Data collected includes: (1) Site information as of the end of FY2013; and (2) 2009-2013 American Community Survey (ACS) census data. Site data from FY2013 was chosen to correspond most closely to the census data in the 2009-2013 ACS. In FY2013 this included 1,388 Superfund final and proposed NPL sites, as well as non-NPL Superfund Alternative Agreement sites in the 50 U.S. states with accurate locational data.

³⁶ Currie, Janet, Michael Greenstone, and Enrico Moretti. 2011. "Superfund Cleanups and Infant Health." *American Economic Review*, 101(3): 435-41.

³⁷ U.S. EPA, Office of Solid Waste and Emergency Response Estimate. Data collected includes: (1) Site information as of the end of FY2013; and (2) 2009-2013 American Community Survey (ACS) census data.

environment. At more than 850 NPL sites, the EPA's engagement has facilitated their productive reuse. A peer-reviewed study found that residential property values within three miles of Superfund sites increased 18.6-24.5 percent when sites were cleaned up and deleted from the NPL.³⁸ Additionally, data collected in 2014 for 450 of the 850 sites where reuse is occurring indicate that site cleanups can be a significant economic driver. Those sites now have more than 3,400 operating businesses that generate annual sales over \$31 billion³⁹ and employ over 89,000 people, who earn a combined income of \$6.0 billion.⁴⁰ The annual sales total at these sites is almost 4 times the \$8.2 billion (inflation adjusted) the EPA has spent cumulatively (in appropriated funds, funds obtained from PRP settlements, and state cost-share contributions) at these sites.⁴¹

Linkages to Agency Priorities:

Making a Visible Difference in Communities:

The EPA's Cross-Agency Strategy, *Working to Make a Visible Difference in Communities*, seeks to proactively address endemic and emerging environmental challenges in environmentally overburdened, underserved, and economically distressed communities (including tribes). These actions focus the wide array of agency and other federal resources to help these communities in ways that build long-term sustainability. The Superfund Remedial program is playing a critical role in this strategy through the cleanup of sites located in the focus communities, and by providing technical assistance and reuse planning support. For example, the St. Regis Mohawk Tribe community of Akwesasne, NY, is adjacent to three Superfund sites (GM Massena, Reynolds Metal, and Grasse River). Technical assistance is being provided to Tribal governments to participate in decision making and to clarify the background and choices involved in the remedy selection for the cleanup of the Superfund sites.

Working Toward a Sustainable Future:

The Superfund Remedial program integrates sustainability into its day-to-day operations at sites. Through the implementation of actions under the Green Remediation Strategy, the Remedial program considers the protection of natural resources and environmental media (energy, water, materials, ecosystems, land, and air) in its response actions. Several Superfund sites host solar or wind farms and other sustainable approaches. For example, at Lawrence Aviation Industries, Port Jefferson Station, New York a 1.5 ton geothermal heat exchange system was integrated into the water treatment process at two groundwater treatment plants, and is used for the climate control system for the building that houses the treatment system. This green remediation practice avoids 6,000-7,000 kWh of grid-supplied electricity at each plant every year by allowing the ground below and around the treatment building to serve as the structure's heat source in winter and heat sink in summer, offsetting an estimated 4.1 to 4.8 metric tons of carbon dioxide (equivalent). Going

³⁸ Gamper-Rabindran, Shanti and Christopher Timmins. 2013. "Does cleanup of hazardous waste sites raise housing values? Evidence of spatially localized benefits," *Journal of Environmental Economics and Management* 65(3): 345-360, <http://dx.doi.org/10.1016/j.jeem.2012.12.001>.

³⁹ The 2014 sales data were revised from the FY 2016 Congressional Justification due to a correction.

⁴⁰ For additional information on Redevelopment Economics and in depth case studies, visit:

<http://www.epa.gov/superfund/programs/recycle/economicimpacts.html>.

⁴¹ US EPA Office of Solid Waste and Emergency Response expenditure data. Note: The cumulative total does not include funds spent by potentially responsible parties (PRPs) at sites where the PRP conducts the cleanup. The agency has limited cost data on these sites because PRPs are not generally required to maintain or disclose their cleanup costs to the EPA, and they typically consider such cost information to be confidential.

forward, Superfund is playing a leading role across cleanup programs in supporting adoption of the American Society for Testing and Materials (ASTM) Standard Guide for Greener Cleanups as a protocol to integrate sustainable practices into remedy operations at sites.

Ecological reuse returns contaminated properties or otherwise disturbed land to a functioning and sustainable use by increasing or improving habitat for plants and animals. Returning contaminated sites to beneficial use allows local communities to reclaim lost land, and may increase property values and tax base, protect open space, provide wildlife habitat, contribute to efforts to address climate change, sequester carbon, reduce wind and water erosion, protect water resources, create green spaces and corridors, and improve communities by removing the stigma associated with prior waste sites. There are 155 proposed, final, and deleted NPL-only sites with ecological reuse projects. One such site in ecological reuse is the Landia Chemical Company in Lakeland, Florida, where a former fertilizer-blending operation was planted with over 30 varieties of plants as part of the cleanup activities. This site now provides habitat for native wildlife, migratory birds, and pollinators. In addition, the EPA will evaluate the potential to promote other ecosystem services such as the health of honey bees and other pollinators at Superfund sites as part of its response to the President's 2014 memorandum on this topic.

Mitigating Climate Change:

Ecological reuse also addresses climate change priorities. When organic soil amendments⁴² are used for remediation and ecological reuse, one of the associated benefits is terrestrial carbon sequestration, which slows the effect of climate change. The Superfund Remedial program conducted research at three sites (Leadville, Colorado; Stafford, Virginia; Sharon, Pennsylvania) to measure the amount of carbon sequestered due to the EPA's remediation and revitalization efforts using soil amendments. Results of this field research revealed that: 169-218 metric tons CO₂/acre is sequestered at Leadville; 57-99 metric tons CO₂/acre is sequestered at Stafford; and 2.5 metric tons CO₂/acre is sequestered at Sharon. Because there are hundreds of thousands of acres of contaminated and degraded mine land that could be remediated, re-vegetated, and revitalized using soil amendments, Superfund has a significant opportunity to contribute to climate change mitigation through cleanup activities.

Adapting to Climate Change:

The Superfund Remedial program continues to evaluate remedies' vulnerability to the impacts climate change and extreme weather events (e.g., increased flood risk, changes in precipitation, sea level rise, and increased extreme temperature events). The program also is considering requirements under EO 13690 *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*. To this end, the EPA Climate Change Adaptation Plan includes guidelines to ensure remedies and operations are updated as needed to continue meeting the EPA's mission of protecting human health and the environment in the face of climate change impacts potentially affecting remedy vulnerability. Actions under the plan seek to integrate climate change vulnerability analyses and adaptation throughout the Superfund cleanup process, including feasibility studies, remedial designs, and remedy performance reviews to increase confidence that the remedy can withstand changing conditions and extreme weather by implementing adaption measures such as elevating critical instrumentation

⁴² Soil amendments are materials added to soils to improve soil quality and establish plant growth such as animal manures and lime products (EPA, 2011, Soil Amendments for Site Remediation and Reuse. EPA542/F-11-002).

and reinforcing protective berms. The EPA will continue to identify related best practices and develop mechanisms to apply them at sites.⁴³

Programmatic Efficiencies:

In November 2012, the Superfund Remedial program initiated a comprehensive review of its operations to identify options to maintain its effectiveness in achieving its core mission of protecting human health and the environment in the face of diminishing funding availability. The review resulted in an action plan finalized in November 2013, which includes 49 distinct actions or recommendations.⁴⁴ In June 2015, the Superfund Program Review (SPR) First Status Report was released⁴⁵ presenting outcomes of implementing a number of the actions described in the FY 2014 SPR. In addition to what is outlined in the First Status Report, lessons learned from Integrated Cleanup Initiative pilots were re-distributed, a memo was drafted to improve the process and timing for review of draft proposed plans and Records of Decision (RODs), streamlined Five Year Review (FYR) reports continued to be piloted working towards a national streamlined FYR template, and Regional Offices began adhering to cost saving guidelines established for analytical services. Additional efficiencies came about as the Superfund Enterprise Management System (SEMS) made it possible to fulfil records management obligations and meet web publishing needs, with the same action. Administrative Records for certain sites, and the majority of other Superfund documents, are now published to the web via SEMS. Superfund Site Profile Pages, previously published in two locations (headquarters and regional websites), were streamlined and are now published from a single web application.

FY 2017 Activities and Performance Plan:

In FY 2017, the Superfund Remedial program's top priority remains protecting the American public by reducing risk to human health and the environment from contaminated sites. The EPA continues to place a priority on achieving its goals for the two key environmental indicators, Human Exposures Under Control (HEUC) and Groundwater Migration Under Control (GMUC). While continuing to rely on the agency's Enforcement First approach to encourage PRPs to conduct and/or pay for cleanups, the Superfund Remedial program will focus on completing ongoing projects and maximizing the use of site-specific special account resources.⁴⁶ The agency also will emphasize cleaning up sites to foster site reuse, which reflects the high priority that the EPA places on land revitalization.

The Superfund Remedial program is addressing an increasing number of large contaminated sediments sites. These harbor and river sites are critical to the lives and subsistence of the nearby people and communities, and it is the EPA's priority to return these waterways to beneficial use. Depending on the site-specific circumstances, remediation of these sites can be very complex and costly. The Superfund Remedial program will continue to ensure nationally consistent implementation of Superfund policies, including those specific to sediment contamination. These

⁴³ For additional information about the Superfund Remedial program, visit: <http://www.epa.gov/superfund/superfund-climate-change-adaptation>.

⁴⁴ For additional information, visit: <http://semspub.epa.gov/work/11/175850.pdf>.

⁴⁵ For a copy of the Superfund Program Review First Status Report, visit: <http://www.epa.gov/superfund/superfund-program-review>.

⁴⁶ Special account resources are funds the EPA receives from PRPs through settlements and must be used site-specifically.

efforts will help ensure the protection of people and a timely and effective return of these resources to the communities that depend on them.

The FY 2017 Superfund Remedial program requests an increase of \$20 million from the FY 2016 Enacted Budget. The request provides critical resources to support essential ongoing fund-financed investigation, design, and construction projects and maximize the preparation of “shovel ready” projects, while taking into consideration projects with other sources of funding available to conduct work such as potentially responsible parties and special accounts. With this increase, the EPA estimates it will initiate construction work at three to five projects which otherwise would have been delayed. Given the agency’s ongoing remedial project needs, the EPA estimates that at the end of FY 2017 there will be approximately 20-25 construction projects awaiting funding. The EPA is in the process of implementing a new contracting strategy, the Remedial Acquisition Framework that expands competition across all aspects of procuring remediation. This strategy should result in additional acquisition opportunities and potential cost efficiencies due to competition. It is anticipated that the first contracts under this strategy will be awarded in FY 2017.

Performance Results for Four Primary Stages of the Superfund Remedial Program:

The following chart, developed from SEMS data, is a high-level description of Superfund remedial site activity that shows how sites progress through the remedial pipeline from site assessment through NPL deletion. Following the chart is a description of the Superfund program workload for each stage of the Superfund Remedial program.

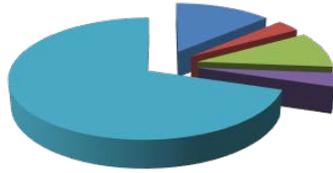
Superfund Remedial Response Site Activity

All Superfund Site Activity (Includes Federal Facilities)

(Includes Federal Facilities)

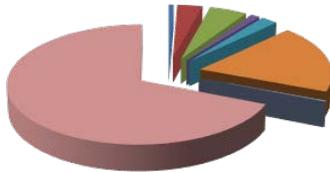
Site Assessment Accomplishments (52,166)

- Pre-Screened from Active CERCLIS Inventory - 6933
- NPL - 1714
- Needs Non-NPL Response - 5103
- Site Assessment Needed - 1887
- No Federal Superfund Interest - 36529



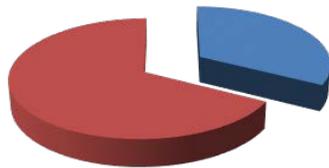
1,714 NPL Sites (1,323 Final, 391 Deleted)

- Remedial Assessment Not Begun - 11
- Study Underway - 57
- Early Action - 86
- Remedy Selected - 21
- Design Underway - 39
- Construction Underway - 319
- Deleted Deferred to Another Authority - 4
- Construction Complete - 1177



1,177 Construction Completed Sites

- CC and Deleted - 387
- CC and not Deleted - 790

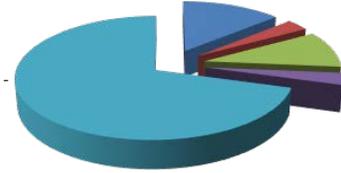


EPA- & PRP-Lead Site Activity (Excludes Federal Facilities)

(Excludes Federal Facilities)

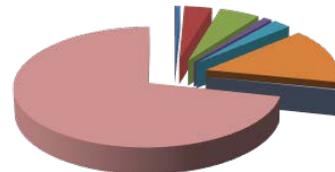
Site Assessment Accomplishments (49,609)

- Pre-Screened from Active CERCLIS Inventory - 6730
- NPL - 1538
- Needs Non-NPL Response - 4867
- Site Assessment Needed - 1548
- No Federal Superfund Interest - 34926



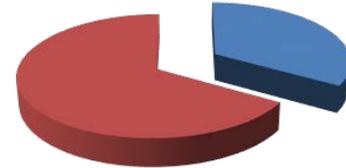
1,540 NPL Sites (1,166 Final, 374 Deleted)

- Remedial Assessment Not Begun - 11
- Study Underway - 56
- Early Action - 83
- Remedy Selected - 18
- Design Underway - 38
- Construction Underway - 230
- Deleted Deferred to Another Authority - 4
- Construction Complete - 1100



1,100 Construction Completed Sites

- CC and Deleted - 370
- CC and not Deleted - 730



* Remedial Assessment Not Begun - Final NPL. No RI/FS, Removal, ROD, RD, RA, or CC.
 * Study Underway - Final NPL. RI/FS action started. No Removal, ROD, RD, RA, or CC.
 * Early Action - Final NPL. Removal action started. No ROD, RD, RA, or CC.
 * Remedy Selected - Final NPL. ROD completed. No RD, RA, or CC.
 * Design Underway - Final NPL. RD action started. No RA or CC.
 * Construction Underway - Final NPL. RA action started. Not CC.
 * Deleted Deferred To Another Authority - Deleted NPL and not CC.
 * Construction Complete - CC flag and date
 * Data from SEMS as of January 14, 2016

1) Site Assessment & NPL Additions:

The site assessment component of the Superfund Remedial program performs the critical function of screening sites for contamination and developing the most appropriate approach for cleanup. In FY 2017, the program expects to perform 675 remedial site assessments, of which approximately one-half will be conducted by states and tribes through cooperative agreement funding.

At the beginning of FY 2017, the EPA expects that approximately 1,800 sites will need initial or additional assessment and, based on recent trends, the EPA expects 200 new sites will be submitted to the program by citizens, states, tribes, other federal agencies, and other sources over the course of the year. The NPL, including current sites on the NPL and sites that have been deleted, totals 1,714 sites. Based on historical patterns, the EPA anticipates the following results listed in the table below from its expected completion of 675 remedial assessments in FY 2017. Additionally, the EPA is tracking progress at 69 sites with Superfund Alternative Approach (SAA) agreements in place.⁴⁷ The agency estimates that it will add between 10 and 20 sites to the NPL in FY 2017.

Remedial Assessment Results	Estimated Distribution of FY 2017 Accomplishments*
Sites directed to states/tribes for any further attention	63%
Site needs more complex assessment	33%
Site needs remedial study/cleanup via the NPL or other cleanup approach	4%

* Percentages are based on SEMS FY2015 accomplishment results.

The EPA will continue to increase public access to assessment information in FY 2017. This will include enhanced access to performance data so the public can better understand what assessment work has been completed and what remains. Enhanced access to data also will add transparency to the EPA decision-making process within the remedial site assessment program. In FY 2017, the EPA expects to issue a final rulemaking incorporating the subsurface vapor intrusion exposure pathway into agency site assessment guidance and revisions to the Hazard Ranking System (HRS).⁴⁸

2) Site Characterization and Remedy Selection

In FY 2017, the EPA will continue to focus on completing existing work and starting new Fund-Lead Remedial Investigation/Feasibility Study (RI/FS) actions. The EPA's actual accomplishments and estimates include projects funded using either appropriated funds or special account funds.

⁴⁷ For additional information, refer to: <http://www.epa.gov/enforcement/sites-superfund-alternative-approach-agreements>.

⁴⁸ For additional information on the Superfund remedial assessment process, visit: http://www.epa.gov/superfund/programs/npl_hrs/siteasmt.htm.

Remedial Investigations/Feasibility Studies	Fiscal Year Actuals/Estimates		
	FY 2015 Actual Accomplishments	FY 2016 Est.	FY 2017 Est.
RI/FS Ongoing Projects (EPA)	261	257	255 - 260
RI/FS Ongoing Projects (PRP)	235	226	225 - 230
Total Ongoing Projects	496	483	480 - 490
RI/FS Starts (EPA)	23	16	15 - 20
RI/FS Starts (PRP)	8	11	10 - 15
Total RI/FS Starts	31	27	25 - 35
RODs/ROD Amendments (EPA/PRP)	33*	47	45 - 50

*Does not include Federal Facilities RODs and ROD Amendments.

3) Remedial Design and Construction

In FY 2017, the EPA also will focus on completing existing Remedial Design (RD) work and starting new Fund-Lead RD actions. The EPA's actual accomplishments and estimates include projects funded using either appropriated funds or special account funds.

Remedial Design	Fiscal Year Actuals/Estimates		
	FY 2015 Actual Accomplishments	FY 2016 Est.	FY 2017 Est.
RD Ongoing Projects (EPA)	109	114	110 - 115
RD Ongoing Projects (PRP)	102	103	100 - 105
Total RD Ongoing Projects	211	217	210 - 220
RD Starts (EPA)	19	27	25 - 30
RD Starts (PRP)	24	20	15 - 20
Total RD Starts	43	47	40 - 50
RD Completions (EPA)	28	22	20 - 25
RD Completions (PRP)	30	19	15 - 20
Total RD Completions	58	41	35 - 45

In FY 2017, the EPA will continue to focus on completing ongoing construction projects and starting new construction projects. The Superfund Remedial program estimates the EPA will accomplish 105 (including federal facility-lead) Remedial Action (RA) project completions in FY 2017. The RA completion measure augments the long-standing site-wide construction completion measure as an interim measure of progress toward making sites ready for reuse and achieving long term cleanup goals. In FY 2017, the EPA will work to achieve site-wide construction completion at 13 sites, including federal facility-lead sites. As of the end of FY 2015, the cumulative total of NPL sites that achieved construction completion is 1,177 (or 69 percent of the universe of 1,714 sites).

Remedial Action (RA) and Construction Completion (CC)	Fiscal Year Actuals/Estimates		
	FY 2015 Actual Accomplishments	FY2016 Est.	FY 2017 Est.
RA Ongoing Projects (EPA)	180	171	170 - 175
RA Ongoing Projects (PRP)	276	269	265 - 270
Total RA Ongoing Projects	456	440	435 - 445
RA Starts (EPA)	33	25**	20 - 25
RA Starts (PRP)	25	16	15 - 20
Total RA Starts	58	41	35 - 45
RA Completions (EPA)	33	34	30 - 35
RA Completions (PRP)	33	23	20 - 25
Total RA Completions	66*	57	50 - 60
Construction Completions (CC)	14	13	13

*Does not include Federal Facilities RA Completions.

**RA Starts (EPA) for FY 2016 are based on a 5-year historical average.

4) Post-Construction (Five Year Reviews and Site Deletions)

During FY 2017, the EPA plans to conduct approximately 245 Five-Year Reviews (FYRs) at sites with waste left in place above levels that allow for unlimited use and unrestricted exposure. FYRs are used to evaluate the implementation and performance of a remedy to determine whether the remedy remains protective of human health and the environment.

The Superfund Remedial program will work with states and other federal agencies, as appropriate, to delete sites or parts of sites from the NPL where sites have met the statutory requirements for deletions.

Post-Construction	Fiscal Year Actuals/Estimates		
	FY 2015 Actual Accomplishments	FY 2016 Est.	FY 2017 Est.
Five Year Review Completions (EPA/PRP)	247*	245*	245*
NPL Partial Deletions	2	3-5	3-5
NPL Final Deletions	6	5-10	5-10

*Does not include Federal Facilities Five Year Review Completions.

Environmental Indicators:

In FY 2017, the agency plans to achieve control of all identified unacceptable human exposures at 9 additional sites, bringing the program's cumulative total of HEUC sites to 1,457. Additionally, the agency expects to achieve GMUC at 13 additional sites, bringing the program's cumulative total to 1,164 sites.

In prior years, the Superfund Remedial and Superfund Federal Facility programs routinely exceeded the annual HEUC and GMUC targets. Recently, this achievement has become more challenging. The universe of sites from which accomplishments can be drawn is smaller because over the past ten years the program has been making very good progress at moving sites into the "Under Control" category. In addition, many of the sites that are in the "Not Under Control"

category are large, complex cleanups, which often necessitate years of cleanup. Further, factors such as additional contamination discovered during cleanup, emerging environmental issues such as vapor intrusion, new and more stringent cleanup standards (e.g., dioxin, TCE), can cause sites to move out of the “Under Control” category or delay progress in achieving that status.

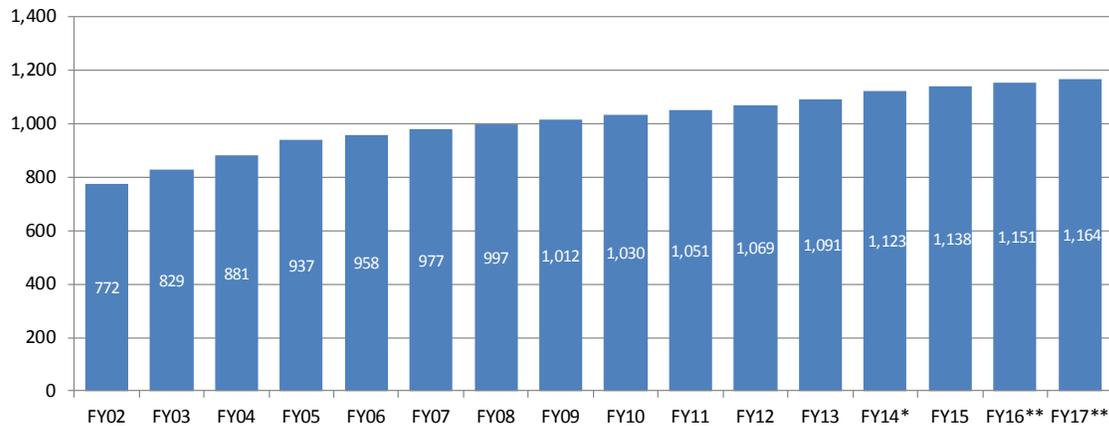
Cumulative Number of Superfund Sites with Human Exposure Under Control from FY2002 to FY2017



*The Human Exposure accomplishment increased significantly from FY13 to FY14 because Superfund added into the Human Exposure reporting universe Superfund Alternative Agreement Sites as well as sites that were recently listed on the NPL but were not yet in the reporting universe.

**Estimated Achievements for FY 2016 and FY 2017 based on current goals

Cumulative Number of Superfund Sites with Groundwater Migration Under Control from FY 2002 to FY 2017



*The Groundwater Migration accomplishment increased significantly from FY13 to FY14 because Superfund added into the Groundwater Migration reporting universe Superfund Alternative Agreement Sites as well as sites that were recently listed on the NPL but were not yet in the reporting universe.

**Estimated Achievements for FY 2016 and FY 2017 based on current goals

Site Reuse:

In FY 2017, the EPA expects 45 additional sites will qualify as Site-Wide Ready for Anticipated Use (SWRAU), bringing the program’s cumulative total to 842 sites that are ready for reuse. To be eligible for the SWRAU performance measure, a site must be site-wide construction complete, all cleanup goals that affect future land use must be achieved, the site must be designated as HEUC, and all required institutional controls must be put in place. Accomplishment of this measure continues to be formidable. Resource challenges, the complexity of cleanups at remaining sites that have not yet achieved SWRAU, and constraints on state and local governments’ abilities to implement institutional controls affect the universe of available sites eligible to achieve SWRAU in a given year. As a result, the EPA lowered the original FY 2015 target for this measure from 55 to 45 sites and will retain this target for FY 2017.

Performance Targets:

Measure	(115) Number of Superfund remedial site assessments completed.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target		900	900	650	700	850	675	675	Assessments
Actual		1,020	1,151	772	794	869			

Measure	(141) Annual number of Superfund sites with remedy construction completed.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	22	22	22	19	15	13	13	13	Completions
Actual	18	22	22	14	8	14			

Measure	(151) Number of Superfund sites with human exposures under control.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	10	10	10	10	10	9	9	9	Sites
Actual	18	10	13	14	9	10			

Measure	(152) Number of Superfund sites with contaminated groundwater migration under control.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	15	15	15	15	15	13	13	13	Sites
Actual	18	21	18	18	11	15			

Measure	(170) Number of remedial action projects completed at Superfund sites.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target		103	130	115	115	105	105	105	Projects
Actual		132	142	121	115	104			

Measure	(S10) Number of Superfund sites ready for anticipated use site-wide.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	65	65	65	60	55	45	45	45	Sites
Actual	66	65	66	56	45	45			

The Superfund Remedial program reports its activities and progress toward long-term human health and environmental protection via six performance measures that encompass the entire cleanup process. The FY 2016 performance target for the Superfund remedial site assessments

completed measure has been revised from 750 to 675 assessments to reflect a shift in focus from lower cost preliminary assessments at new sites to higher cost complex assessments at existing sites. This target will be retained in FY 2017.

Work of the Superfund Remedial program also contributes to the FY 2016-2017 Agency Priority Goal to clean up contaminated sites to enhance the livability and economic vitality of communities.

Performance goals for the Superfund Federal Facilities program are a component of the Superfund Remedial program's measures that also are found in the Eight-Year Performance Array under Goal 3.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$1,292.0) This change to fixed and other costs reflects the recalculations of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$18,751.0) This program change reflects an increase in critical resources to support the agency's ability to continue essential ongoing fund-financed projects, maximize the preparation of "shovel-ready" projects, and provide funding (thus reducing the backlog) for new construction projects.

Statutory Authority:

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

Program Area: Superfund Special Accounts

Background

Section 122(b)(3) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) authorizes the EPA to retain and use funds received pursuant to a settlement agreement with a Potentially Responsible Party (PRP) to carry out the purpose of that agreement. The EPA retains such funds in special accounts, which are sub-accounts in the Superfund Trust Fund. Pursuant to the specific agreements, which typically take the form of an Administrative Order on Consent or Consent Decree, the EPA uses special account funds to finance site-specific CERCLA response actions at the site for which the account was established. Through the use of special accounts, the EPA implements its “enforcement first” policy – ensuring responsible parties pay for cleanup – so that appropriated resources from the Superfund Trust Fund are generally conserved for sites where no viable or liable PRPs can be identified. Both special account resources and appropriated resources are critical to the Superfund program.

Special account funds are used to conduct many different site-specific CERCLA response actions, including, but not limited to, investigations to determine the extent of contamination and appropriate remedy needed, construction and implementation of the remedy, enforcement activities, and post-construction activities. The EPA also may provide special account funds as an incentive to another PRP who agrees to perform additional work beyond the PRP’s fair share at the site, which the EPA might otherwise have to conduct using appropriated resources. Because response actions may take many years, the full use of special account funds also may take many years. Pursuant to the agreement, once site-specific work is complete and site risks are addressed, special account funds may be used to reimburse the EPA for site-specific costs incurred using appropriated resources (i.e., reclassification), allowing the latter resources to be allocated to other sites. Any remaining special account funds are generally transferred to the Superfund Trust Fund, where they are available for future appropriation by Congress to further support cleanup at other sites.

FY 2015 Special Account Activity

Since the inception of special accounts through the end of FY 2015, the EPA has collected over \$6.3 billion from PRPs and earned approximately \$445.2 million in interest. In addition, at sites with no additional work planned or costs to be incurred by EPA, the EPA has transferred approximately \$27.8 million to the Superfund Trust Fund. As of the end of FY 2015, over \$2.9 billion has been disbursed for site response actions and \$394.1 million has been obligated but not yet disbursed. Of the special account funds made available through the end of FY 2015, approximately 49 percent have been disbursed or obligated for response actions at sites and plans have been developed to guide the future use of the remaining 51 percent of special account funds.

The cumulative amount available in special accounts increased from \$1.95 billion available at the end of FY 2014 to \$3.45 billion available at the end of FY 2015. Through its enforcement first efforts, the agency continues to receive site-specific settlement funds that are placed in special accounts each year, so progress on actual obligation and disbursement of funds may not be apparent upon review solely of the cumulative available balance. In FY 2015 the EPA received

nearly \$1.78 billion for deposit into special accounts, more than triple the amount received in FY 2014 (\$505 million) and more than ten times the amount received in FY 2013 (\$176 million) for site-specific response work. More than \$1.4 billion of the funds deposited in FY 2015 into special accounts were a result of settlement payments received pursuant to fraudulent conveyance claims against Kerr-McGee Corporation and related subsidiaries of Anadarko Petroleum Corporation. These funds will be used for anticipated future work at Superfund sites designated in the settlement, including specified abandoned uranium mines on and near the Navajo Reservation, the Welsbach & General Gas Mantle (Camden Radiation) site in New Jersey, and the Lindsay Light II site in Illinois.

The remaining balance of more than \$3.45 billion does not represent the level of annual funding available to the EPA from special accounts since the funds collected under settlements are intended to finance future cleanup work at particular sites over the long term. The EPA is carefully managing those funds that remain available for site response work and develops plans to utilize the available balance. EPA will continue to plan the use of funds received to conduct site-specific response activities, or reclassify and/or transfer excess funds to the Superfund Trust Fund for use at other Superfund sites.

Special account funds allow response work such as investigations, removals, and remedial construction to continue at sites to protect human health and the environment for communities affected by these sites, while at the same time freeing up appropriated dollars for use at other sites without viable or liable PRPs. It's important to note that for some Superfund sites, despite having funds readily available in a special account, work at these sites may take many years to initiate and complete due to other extenuating circumstances including the specific requirements for fund use set forth in the agreement the funds were collected under, the stage of site cleanup, the viability of other responsible parties to conduct site cleanup, and the nature of the site contamination, among other things. The EPA has plans to spend more than \$1 billion of currently available special account funds over the next 5 years, but funds also are planned much further into the future to continue activities such as conducting or overseeing operation and maintenance where waste has been left in place. The EPA will continue to monitor the use of special account funds to ensure we are conducting cleanups and using these funds as quickly and efficiently as possible.

In FY 2015, the EPA disbursed and obligated over \$259.4 million from special accounts for response work at more than 650 Superfund sites. Some examples include more than \$75 million obligated or disbursed from special accounts to support work at the New Bedford site in Massachusetts, \$20 million for the Gilt Edge Mine site in South Dakota, more than \$14 million for the Newton County Mine site in Missouri, and \$13 million for the Welsbach & General Gas Mantle (Camden Radiation) site in New Jersey. Without special account funds being available, appropriated funds would have been necessary for these response actions to be funded. In other words, EPA was able to fund \$259.4 million in response work at sites in addition to the work funded through appropriated funds obligated or disbursed in FY 2015.

The summary charts listed provide additional information on the status of special account. Exhibit 1 illustrates the cumulative status of open and closed accounts, FY 2015 program activity, and planned multi-year uses of the available balance. Exhibit 2 provides the prior year (FY 2015), current year (FY 2016), and estimated future budget year (FY 2017) activity for special accounts.

Exhibit 3 provides prior year data (FY 2015) by EPA Regional Offices to exhibit the geographic use of the funds.

**Exhibit 1: Summary of FY 2015 Special Account Transactions
and Cumulative Multi-Year Plans for Using Available Special Account Funds**

Account Status¹	Number of Accounts
Cumulative Open	1,025
Cumulative Closed	283
FY 2015 Special Account Activity	\$ in Thousands
Beginning Available Balance	\$1,951,648.8
FY 2015 Activities	
+ Receipts	\$1,778,819.6
- Transfers to Superfund Trust Fund (Receipt Adjustment)	(\$974.1)
+ Net Interest Earned	\$16,868.9
- Net Change in Unliquidated Obligations	(\$93,673.9)
- Disbursements - For EPA Incurred Costs	(\$164,680.3)
- Disbursements - For Work Party Reimbursements under Final Settlements	(\$1,049.1)
- Reclassifications	(\$36,309.5)
End of Fiscal Year (EOFY) Available Balance ²	\$3,450,650.4
Multi-Year Plans for EOFY 2015 Available Balance³	\$ in Thousands
2015 EOFY Available Balance	\$3,450,650.4
- Estimates for Future EPA Site Activities based on Current Site Plans ⁴	\$3,273,384.6
- Estimates for Potential Disbursement to Work Parties Identified in Final Settlements ⁵	\$45,982.9
- Estimates for Reclassifications for FYs 2016-2018 ⁶	\$89,431.9
- Estimates for Transfers to Trust Fund for FYs 2016-2018 ⁶	\$21,861.6
- Available Balance to be Planned for Site-Specific Response ⁷	\$19,989.4
¹ FY 2015 data is as of 10/01/2015. The Beginning Available Balance is as of 10/01/2014.	
² Numbers may not add due to rounding.	
³ Planning data were recorded in the Superfund Enterprise Management System (SEMS) as of October 27, 2015 in reference to special account available balances as of 10/01/2015.	
⁴ "Estimates for EPA Future Site Activities" includes all response actions that EPA may conduct or oversee in the future, such as removal, remedial, enforcement, post-construction activities as well as allocation of funds to facilitate a settlement to encourage PRPs to perform the cleanup. Planning data are multi-year and cannot be used for annual comparisons.	
⁵ "Estimates for Potential Disbursements to Work Parties Identified in Finalized Settlements" includes those funds that have already been designated in a settlement document, such as a Consent Decree or Administrative Order on Consent, to be available to a PRP for reimbursements but that have not yet been obligated.	
⁶ "Reclassifications" and "Transfers to the Trust Fund" are estimated for three FYs only. These amounts are only estimates and may change as the EPA determines what funds are needed to complete site-specific response activities.	
⁷ These include resources received by the EPA at the end of the fiscal year and will be assigned for site-specific response activities.	

Exhibit 2: Actual and Estimated Special Account Transactions FY 2015 – FY 2017

<i>\$ in Thousands</i>	FY 2015 actual	FY 2016 estimate	FY 2017 estimate
	\$ in Thousands		
Beginning Available Balance	\$1,951,648.8	\$3,450,650.4	\$3,419,150.4
Receipts ¹	\$1,778,819.6	\$200,000.0	\$225,000.0
Transfers to Trust Fund (Receipt Adjustment) ²	(\$974.1)	(\$2,000.0)	(\$2,000.0)
Net Interest Earned ³	\$16,868.9	\$41,000.0	\$64,000.0
Net Obligations ^{2,4}	(\$259,403.3)	(\$233,700.0)	(\$233,700.0)
Reclassifications ²	(\$36,309.5)	(\$36,800.0)	(\$36,800.0)
End of Year Available Balance ⁵	\$3,450,650.4	\$3,419,150.4	\$3,435,650.4
¹ The FY 2015 actual includes \$1.4 billion deposited in site-specific special accounts from a settlement to resolve fraudulent conveyance claims against Kerr-McGee Corporation and related subsidiaries of Anadarko Petroleum Corporation. The EPA does not expect to receive a settlement of this size in FY 2016 or FY 2017, and as a result the estimate for receipts placed into special accounts in those years is significantly lower than FY 2015 and in line with more typical years.			
² The estimates for Transfers to Trust Fund, Net Obligations, and Reclassifications are based on a 3 year historical average.			
³ Net interest Earned projections for FY 2016 and FY 2017 are estimated utilizing economic assumptions for the FY 2017 President's Budget. The interest earned on special accounts is subject to sequester under the Budget Control Act of 2011 (Pub. L. No. 112-25). Impacts of sequester are included in the net interest earned reported in FY 2015 actuals but not included in the FY 2016 or FY 2017 estimates.			
⁴ Net Obligations reflect special account funds no longer available for obligation, excluding reclassifications and receipts transferred to the Trust Fund.			
⁵ Numbers may not add due to rounding.			

Exhibit 3: FY 2015 Special Account Transactions by EPA Regional Offices

\$ in Thousands

	Beginning Available Balance	Receipts	Transfers to Trust Fund (Receipt Adjustment)	Net Interest Earned	Net Obligations	Reclassifications	End of Year Available Balance²
Region 1	\$310,775.2	\$143,051.7	\$1.7	\$2,534.0	\$86,788.0	\$5,233.6	\$364,337.7
Region 2	\$208,782.9	\$348,020.7	\$0.0	\$1,662.5	\$50,481.5	\$6,298.7	\$501,685.9
Region 3	\$104,621.3	\$13,718.8	\$0.0	\$783.7	\$4,927.6	\$1,370.9	\$112,825.2
Region 4	\$65,534.0	\$9,055.0	\$498.4	\$310.1	\$3,598.6	\$3,247.4	\$67,554.8
Region 5	\$238,159.2	\$165,644.1	\$165.3	\$1,992.5	\$15,623.2	\$1,575.2	\$388,432.0
Region 6	\$67,331.1	\$15,820.6	\$22.0	\$495.2	\$9,391.8	\$898.4	\$73,334.7
Region 7	\$204,491.0	\$1,410.9	\$22.6	\$1,542.7	\$38,005.5	\$14,991.3	\$154,425.3
Region 8	\$194,037.6	\$56,469.7	\$114.2	\$3,275.4	\$3,521.2	\$2,694.0	\$247,453.3
Region 9	\$310,130.7	\$1,008,657.9	\$0.1	\$2,408.3	\$20,927.5	\$0.0	\$1,300,269.3
Region 10	\$247,785.9	\$16,970.3	\$149.9	\$1,864.3	\$26,138.3	\$0.0	\$240,332.3
Total	\$1,951,648.8	\$1,778,819.6	\$974.1	\$16,868.9	\$259,403.3	\$36,309.5	\$3,450,650.4

¹ FY 2015 data is as of 10/01/2015. The Beginning Available Balance is as of 10/01/2014.

² Numbers may not add due to rounding.

**Environmental Protection Agency
2017 Annual Performance Plan and Congressional Justification**

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**Environmental Protection Agency
FY 2017 Annual Performance Plan and Congressional Justification**

**APPROPRIATION: Leaking Underground Storage Tanks
Resource Summary Table**

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Leaking Underground Storage Tanks				
Budget Authority	\$92,747.9	\$91,941.0	\$94,285.0	\$2,344.0
Total Workyears	49.9	54.1	54.1	0.0

Bill Language: LUST

For necessary expenses to carry out leaking underground storage tank cleanup activities authorized by subtitle I of the Solid Waste Disposal Act, \$94,285,000, to remain available until expended, of which \$66,426,000 shall be for carrying out leaking underground storage tank cleanup activities authorized by section 9003(h) of the Solid Waste Disposal Act; \$27,859,000 shall be for carrying out the other provisions of the Solid Waste Disposal Act specified in section 9508(c) of the Internal Revenue Code: Provided, That the Administrator is authorized to use appropriations made available under this heading to implement section 9013 of the Solid Waste Disposal Act to provide financial assistance to federally recognized Indian tribes for the development and implementation of programs to manage underground storage tanks. (Department of the Interior, Environment, and Related Agencies Appropriations Act, 2016.)

Program Projects in LUST

(Dollars in Thousands)

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Enforcement				
Civil Enforcement	\$588.1	\$620.0	\$668.0	\$48.0
Operations and Administration				
Central Planning, Budgeting, and Finance	\$404.5	\$424.0	\$430.0	\$6.0
Facilities Infrastructure and Operations	\$757.9	\$783.0	\$1,101.0	\$318.0
Acquisition Management	\$160.8	\$145.0	\$138.0	(\$7.0)
Subtotal, Operations and Administration	\$1,323.2	\$1,352.0	\$1,669.0	\$317.0
Underground Storage Tanks (LUST / UST)				
LUST / UST	\$9,608.4	\$9,240.0	\$9,322.0	\$82.0
LUST Cooperative Agreements	\$55,573.9	\$55,040.0	\$54,402.0	(\$638.0)

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
LUST Prevention	\$25,369.8	\$25,369.0	\$27,859.0	\$2,490.0
Subtotal, Underground Storage Tanks (LUST / UST)	\$90,552.1	\$89,649.0	\$91,583.0	\$1,934.0
Research: Sustainable Communities				
Research: Sustainable and Healthy Communities	\$284.5	\$320.0	\$365.0	\$45.0
Subtotal, Research: Sustainable and Healthy Communities	\$284.5	\$320.0	\$365.0	\$45.0
TOTAL, EPA	\$92,747.9	\$91,941.0	\$94,285.0	\$2,344.0

Program Area: Enforcement

Civil Enforcement

Program Area: Enforcement

Goal: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

Objective(s): Enforce Environmental Laws to Achieve Compliance

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Inland Oil Spill Programs	\$2,438.4	\$2,413.0	\$2,492.0	\$79.0
Environmental Program & Management	\$169,963.4	\$171,377.0	\$182,497.0	\$11,120.0
<i>Leaking Underground Storage Tanks</i>	<i>\$588.1</i>	<i>\$620.0</i>	<i>\$668.0</i>	<i>\$48.0</i>
Total Budget Authority / Obligations	\$172,989.9	\$174,410.0	\$185,657.0	\$11,247.0
Total Workyears	1,046.5	1,080.4	1,081.4	1.0

Program Project Description:

The EPA's Civil Enforcement program's goal is to assure compliance with the nation's environmental laws to protect human health and the environment. The program collaborates with the Department of Justice, states, local agencies, and Tribal governments to ensure consistent and fair enforcement of all environmental laws and regulations. The program seeks to address violations that threaten communities, level the economic playing field by ensuring that violators do not realize an economic benefit from noncompliance, and deter future violations. The Civil Enforcement program develops, litigates, and settles administrative and civil judicial cases against serious violators of environmental laws. Compliance with environmental laws improves when regulated entities, federal agencies, and the public have easy access to tools that help them understand these laws and find efficient, cost-effective means for putting them into practice.

To protect our nation's groundwater and drinking water from petroleum releases from Underground Storage Tanks (UST), the Civil Enforcement program provides guidance, technical assistance, and training to promote and enforce cleanups at sites with UST systems.¹ The Enforcement and Compliance Assurance program uses its Leaking Underground Storage Tanks (LUST) resources to oversee cleanups by responsible parties and to enforce cleanups by recalcitrant parties. The EPA may take enforcement action against owners and/or operators of LUSTs to achieve timely and protective cleanup of contamination. The EPA takes enforcement action in response to an UST release if the release poses a major public health or environmental emergency, the state or the owner/operator is unable to respond, or the state requests assistance from the EPA.

¹ For more information refer to: www.epa.gov/swerust1/cat/index.htm.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to work with states to prioritize their state-specific LUST enforcement goals for cleanup. The agency and states also will use innovative approaches, along with outreach and education tools, to help achieve LUST cleanups.

Performance Targets:

Work under this program supports performance results in the Civil Enforcement program under the Environmental Programs and Management (EPM) appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$29.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$19.0) This program change reflects an increase in travel resources for continued work with the states to achieve LUST cleanups.

Statutory Authority:

Pollution Prevention Act; Community Environmental Response Facilitation Act; National Environmental Policy Act; Atomic Energy Act; Uranium Mill Tailings Radiation Control Act; Resource Conservation and Recovery Act.

Program Area: Operations and Administration

Facilities Infrastructure and Operations
Program Area: Operations and Administration

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Inland Oil Spill Programs	\$498.0	\$584.0	\$1,763.0	\$1,179.0
Science & Technology	\$67,222.2	\$68,339.0	\$78,447.0	\$10,108.0
Environmental Program & Management	\$313,026.1	\$311,540.0	\$329,281.0	\$17,741.0
<i>Leaking Underground Storage Tanks</i>	<i>\$757.9</i>	<i>\$783.0</i>	<i>\$1,101.0</i>	<i>\$318.0</i>
Building and Facilities	\$33,326.3	\$35,641.0	\$44,203.0	\$8,562.0
Hazardous Substance Superfund	\$77,680.0	\$74,278.0	\$70,960.0	(\$3,318.0)
Total Budget Authority / Obligations	\$492,510.5	\$491,165.0	\$525,755.0	\$34,590.0
Total Workyears	327.1	350.2	349.9	-0.3

Program Project Description:

The EPA's Facilities Infrastructure and Operations program in the Leaking Underground Storage Tank (LUST) appropriation supports rent, transit subsidy, and facilities management services. Funding is allocated among major appropriations for the agency.

FY 2017 Activities and Performance Plan:

The agency will continue to conduct rent reviews and verify monthly billing statements for its lease agreements with the General Services Administration and other private landlords. For FY 2017, the EPA is requesting a total of \$0.92 million for rent in the LUST appropriation.

Performance Targets:

Work under this program supports the performance measures in the Facilities Infrastructure and Operations program under the EPM appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment section. Information on the agency's energy/GHG reduction initiative can be found in the agency's Strategic Sustainability Performance Plan.²

² For additional information, refer to: <http://www.epa.gov/greeningepa/epa-strategic-sustainability-plans>.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$6.0) This change to fixed and other costs is an increase due to the recalculation of transit subsidy.
- (+\$310.0) This change to fixed and other costs is an increase due to the recalculation of rent.
- (+\$2.0) This program change increases funding to support basic operations and maintenance costs for the EPA facilities nationwide. While the resources are minimal, the funds are essential to support the agency, its mission, and its workforce.

Statutory Authority:

Federal Property and Administration Services Act; Public Building Act; Robert T. Stafford Disaster Relief and Emergency Assistance Act; Clean Water Act; Clean Air Act; Resource Conservation and Recovery Act (RCRA); Toxic Substances Control Act (TSCA); National Environmental Policy Act (NEPA); Community Environmental Response Facilitation Act (CERFA); Energy Policy Act of 2005; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA’s organic statute).

Acquisition Management

Program Area: Operations and Administration

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$31,443.4	\$30,464.0	\$35,298.0	\$4,834.0
<i>Leaking Underground Storage Tanks</i>	<i>\$160.8</i>	<i>\$145.0</i>	<i>\$138.0</i>	<i>(\$7.0)</i>
Hazardous Substance Superfund	\$20,910.2	\$22,461.0	\$24,468.0	\$2,007.0
Total Budget Authority / Obligations	\$52,514.4	\$53,070.0	\$59,904.0	\$6,834.0
Total Workyears	292.2	304.5	304.8	0.3

Program Project Description:

Leaking Underground Storage Tanks (LUST) resources in the Acquisition Management program support the agency's contract activities.

FY 2017 Activities and Performance Plan:

Acquisition Management resources in LUST support information technology needs and the training and development of the EPA's acquisition workforce.

Performance Targets:

Work under this program supports the performance results in the Acquisition Management program under the EPM appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$7.0) This program change reflects a minimal reduction in contractual resources from more effective business practices in the Acquisition Management program.

Statutory Authority:

Office of Federal Procurement Policy Act; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Central Planning, Budgeting, and Finance
Program Area: Operations and Administration

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$74,705.6	\$72,184.0	\$76,674.0	\$4,490.0
<i>Leaking Underground Storage Tanks</i>	<i>\$404.5</i>	<i>\$424.0</i>	<i>\$430.0</i>	<i>\$6.0</i>
Hazardous Substance Superfund	\$23,542.1	\$22,126.0	\$24,025.0	\$1,899.0
Total Budget Authority / Obligations	\$98,652.2	\$94,734.0	\$101,129.0	\$6,395.0
Total Workyears	473.1	493.4	495.4	2.0

Program Project Description:

The EPA's financial management community maintains a strong partnership with the Leaking Underground Storage Tanks (LUST) program. Activities under the Central Planning, Budgeting and Finance program support the management of integrated planning, budgeting, financial management, performance and accountability processes, and systems to ensure effective stewardship of LUST resources. This includes developing, managing, and supporting a performance management system consistent with the Government Performance and Results Modernization Act for the agency that involves strategic planning and accountability for environmental, fiscal, and managerial results; providing policy, systems, training, reports, and oversight essential for the financial operations of the EPA; managing the agencywide Working Capital Fund; providing financial payment and support services for the EPA through three finance centers, specialized fiscal and accounting services for the LUST programs; and managing the agency's annual budget process.

FY 2017 Activities and Performance Plan:

The EPA will continue to ensure sound financial and budgetary management of the LUST program through the use of routine and ad hoc analysis, statistical sampling, and other evaluation tools. Building on the work begun in previous years, the EPA will continue to monitor and strengthen internal controls with a focus on sensitive payments and property. In addition, structured and targeted use of financial systems that include funds control and oversight of expenses in the LUST program has led to a better understanding of program impacts as well as increased efficiencies.

Performance Targets:

Work under this program supports multiple strategic objectives. Currently, there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$35.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$29.0) This program change reflects a reduction in contractual costs for financial processes as a result of the agency's continued efforts to streamline financial management business processes and find efficiencies across headquarters and Regional Offices.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat.2086, as amended by Pub. L. 98-80, 97 Stat.485 (codified as Title 5, App.).

Program Area: Underground Storage Tanks (LUST / UST)

LUST / UST

Program Area: Underground Storage Tanks (LUST / UST)
 Goal: Cleaning Up Communities and Advancing Sustainable Development
 Objective(s): Restore Land

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Environmental Program & Management	\$12,036.0	\$11,295.0	\$11,612.0	\$317.0
<i>Leaking Underground Storage Tanks</i>	<i>\$9,608.4</i>	<i>\$9,240.0</i>	<i>\$9,322.0</i>	<i>\$82.0</i>
Total Budget Authority / Obligations	\$21,644.4	\$20,535.0	\$20,934.0	\$399.0
Total Workyears	101.4	108.1	108.1	0.0

Program Project Description:

The EPA's leaking underground storage tank (LUST) program plays an important role in ensuring underground sources of drinking water are cleaned up if they have been exposed to petroleum or its byproducts released from a regulated underground storage tank (UST). The program oversees cooperative agreements to states, and directly implements a full range of cleanup activities in Indian country. The program oversees state funding for technical assistance, training on how to conduct cleanups, and improving the efficiency of state³ programs. In Indian country, the program conducts site assessments, cleans contaminated water and soil, provides alternative sources of drinking water when needed, and takes enforcement action against responsible parties. This work supports the EPA's cross-agency strategy Making a Visible Difference in Communities and the people living and working near USTs across the country by working with state, Tribal, and local partners to clean up releases from underground storage tanks and protect precious water resources.

While considerable progress has been made over the last ten years, much work remains. The LUST Prevention and LUST Cleanup programs have an important relationship. The fewer new releases we experience in the future because of a robust prevention program will allow us to focus on existing and historic releases in the cleanup program. As the EPA has implemented improvements and increased frequency of inspections and other prevention efforts, there also has been a decrease in newly confirmed releases. The continued reduction in confirmed releases will remain a critical component in backlog reduction, but given that new releases are confirmed each year, maintaining cleanup progress is essential as well. In partnership with state and Tribal programs, strategies to reduce the number of remaining LUST sites that have not reached cleanup completion will leverage best practices and support management, guidance, and enforcement activities.

The federal LUST program supports the tracking and implementation of LUST cleanup programs in states and directly implements assessments and cleanups of petroleum contamination from USTs in Indian country. These funds:

- Ensure program efficiency;
- Provide administrative and technical support of program activities;

³ States as referenced here also include the District of Columbia and five territories as described in the definition of state in the Solid Waste Disposal Act.

- Provide leadership with respect to performance goals and financial accountability;
- Support states and tribes by funding technical studies, evaluations, and analyses (e.g., opportunities for remedy optimization or innovative and environmentally friendly approaches to corrective action, such as green remediation); forums for information exchange; and training opportunities to continually make program implementation efficient and effective; and
- Provide support and training at the national level, which helps all states and tribes by eliminating duplicative efforts across the country.

In addition, the EPA has primary responsibility for implementing the LUST program in Indian country and will use a portion of its LUST funding to assess and clean up releases from USTs. The EPA, when making decisions that may affect tribes and Indian country, and when taking action in Indian country, shall consult with those tribes under the May 2011 *EPA Policy on Consultation and Coordination with Indian Tribes*. The EPA's funding is critical to protecting Indian country from leaking underground storage tanks. It is the primary source of money for these activities. With few exceptions, tribes do not have independent program resources to pay for assessing and cleaning up UST releases.

The EPA's LUST backlog study⁴ completed in FY 2011 has led the EPA to pursue several initiatives in partnerships with states and tribes that arose from the data brought to light by the study. The EPA has initiated and is continuing to pursue efforts such as providing training to the EPA, state, and Tribal field staff on optimizing site characterization and cleanup efforts; reviewing sites for remedy optimization; increasing the emphasis on ensuring adequate financial responsibility on the part of owners and operators; and other such strategies.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will work with states to continue implementing strategies to reduce the number of sites that have not reached cleanup completion, and address new releases as they continue to be confirmed. Additionally, the EPA will continue improving ways to characterize LUST sites that have not reached cleanup completion by providing guidance and technical support regarding cleanup approaches and technologies. Additional training will include remediation process optimization, remediation evaluation model monitoring, and other corrective action courses dealing with new and improved cleanup technologies, such as carbon injection.

The EPA will monitor the soundness of financial mechanisms, in particular insurance and state cleanup funds that serve as financial assurance for LUST releases. In FY 2012, the EPA issued guidance⁵ for overseeing state funds, and in FY 2013 began a more rigorous analysis of state fund soundness. To ensure money is available for cleanups when needed, the EPA will continue regular reviews of active state funds. The EPA is identifying funding issues and working collaboratively with states to seek ways to cover and control remediation costs.

⁴ For additional information, refer to *The National LUST Cleanup Backlog: A Study of Opportunities*, September 2011, <http://www.epa.gov/ust/national-lust-cleanup-backlog-study-opportunities>.

⁵ See *Guidance For Regional Office Review Of State Underground Storage Tanks Financial Assurance Funds*, January 2012 <http://www.epa.gov/sites/production/files/2014-10/documents/state-fund-soundness-guidance1-26-2012.pdf>.

In FY 2017, the EPA will maintain focus on local community engagement and stakeholder input by ensuring states' and tribes' policies and processes for public involvement. The EPA developed several helpful documents regarding community engagement in the LUST program⁶ and continues sharing with states and tribes successful practices and tools that will help tailor community engagement for specific circumstances at LUST release sites.

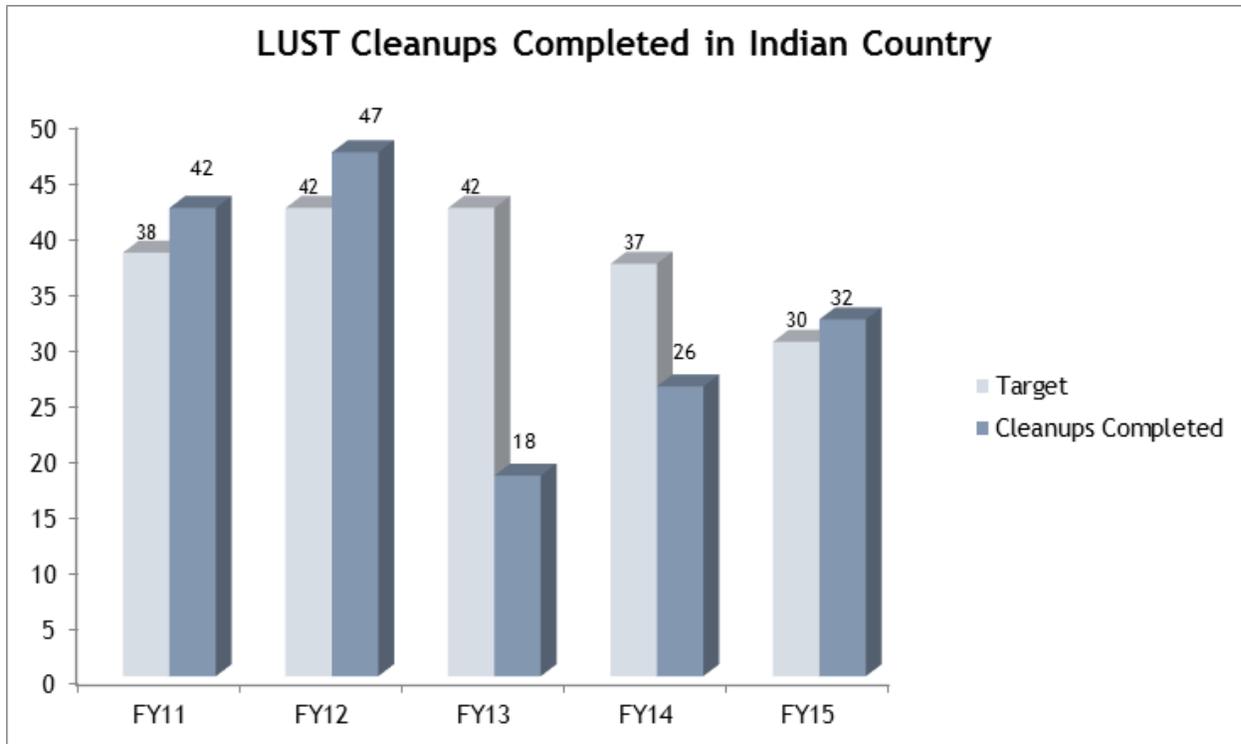
To address leaking underground storage tanks in Indian country, the EPA will provide support for:

- Site assessments, investigations, and remediation of high priority sites;
- Enforcement against responsible parties;
- Cleanup of soil and groundwater;
- Alternate water supplies;
- Cost recovery against UST owners and operators;
- Technical expertise and assistance;
- Response activities;
- Oversight of responsible party lead cleanups, and
- Support and assistance to Tribal governments.

End of year FY 2015 data show that, of the approximately 528,000 releases reported since the beginning of the UST program in 1988, more than 456,000 (or 86.4 percent) have been cleaned up. This means approximately 72,000 releases remain that have not reached cleanup completion. In addition, even though the EPA and its partners have made major progress in reducing the number of new releases that add to this cleanup backlog, thousands of new releases are discovered each year.

In FY 2015, the EPA completed 32 cleanups in Indian country. Since FY 2011 to FY 2016, the EPA's budget to clean up LUST sites in Indian country has decreased by 39 percent. Recognizing these realities, the EPA lowered the performance targets for FY 2016 and FY 2017 because the sites are more complex and, therefore, more expensive resulting in longer-term cleanups than were completed in the past. While there are a number of difficult and costly LUST sites with substantial releases in Indian country, the EPA has become more vigilant about optimizing remediation plans. This increased scrutiny adds time and more steps to the process, but will lead to more cost effective and efficient cleanups in the future.

⁶ For additional information, visit: <http://www.epa.gov/ust/community-engagement-and-underground-storage-tank-program>.



Performance Targets:

Measure	(113) Number of LUST cleanups completed that meet risk-based standards for human exposure and groundwater migration in Indian country.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	30	38	42	42	37	30	26	26	Cleanups
Actual	62	42	47	18	26	32			

Sites cleaned up in this program will support the FY 2016-2017 Agency Priority Goal to clean up contaminated sites to enhance the livability and economic vitality of communities.

Work under this program supports performance results in the LUST Cooperative Agreements program under the LUST appropriation. These measures can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$301.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$219.0) This program change will decrease the number of cleanups of LUST sites in Indian country and the ability to provide subject matter and technical expertise to states and tribes who routinely ask the agency for support on technical LUST matters.

Statutory Authority:

Resource Conservation and Recovery Act, §§ 8001, 9001-9014.

LUST Cooperative Agreements

Program Area: Underground Storage Tanks (LUST / UST)

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Restore Land

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Leaking Underground Storage Tanks</i>	\$55,573.9	\$55,040.0	\$54,402.0	(\$638.0)
Total Budget Authority / Obligations	\$55,573.9	\$55,040.0	\$54,402.0	(\$638.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The leaking underground storage tank (LUST) program ensures that petroleum contamination of groundwater is properly assessed and cleaned up. Even a small amount of petroleum released from an underground storage tank can contaminate groundwater. The program provides states⁷ with funding through cooperative agreements to assess and clean up these releases. The work in this program supports the EPA's cross-agency strategy Making a Visible Difference in Communities and the people living and working near USTs across the country by working with state, Tribal, and local partners to clean up releases from underground storage tanks and protect precious water resources.

LUST funding supports states in managing, overseeing, and enforcing cleanups at LUST sites that have not reached cleanup completion. These activities focus on increasing the efficiency of LUST cleanups nationwide, leveraging private and state resources, and enabling community redevelopment. The EPA and state programs will consider best practices and implement strategies to reduce the number of remaining LUST sites that have not reached cleanup completion. Backlog reduction efforts will target high priority sites and examine potential economies of scale, as well as a variety of state specific initiatives including use of risk-based approaches and examination of caseloads to look for sites that are ready for closure.

The EPA's backlog study completed in FY 2011 provided significant information to characterize the national inventory of sites that have not reached cleanup completion. The EPA found that almost half of the releases were 15 years old or older, and that groundwater was contaminated at 75 percent of these sites. Remediating groundwater contamination is often more technically complex, takes longer, and is more expensive than remediation of soil contamination.⁸ Remediation costs average between \$100 thousand and \$400 thousand per underground storage tank (UST) release, the cost increasing with the presence of groundwater contamination. Potential adverse effects from chemicals such as benzene, methyl-tertiary-butyl-ether (MTBE), alcohols, or lead scavengers in gasoline contribute to the cost of cleaning up these contaminants.

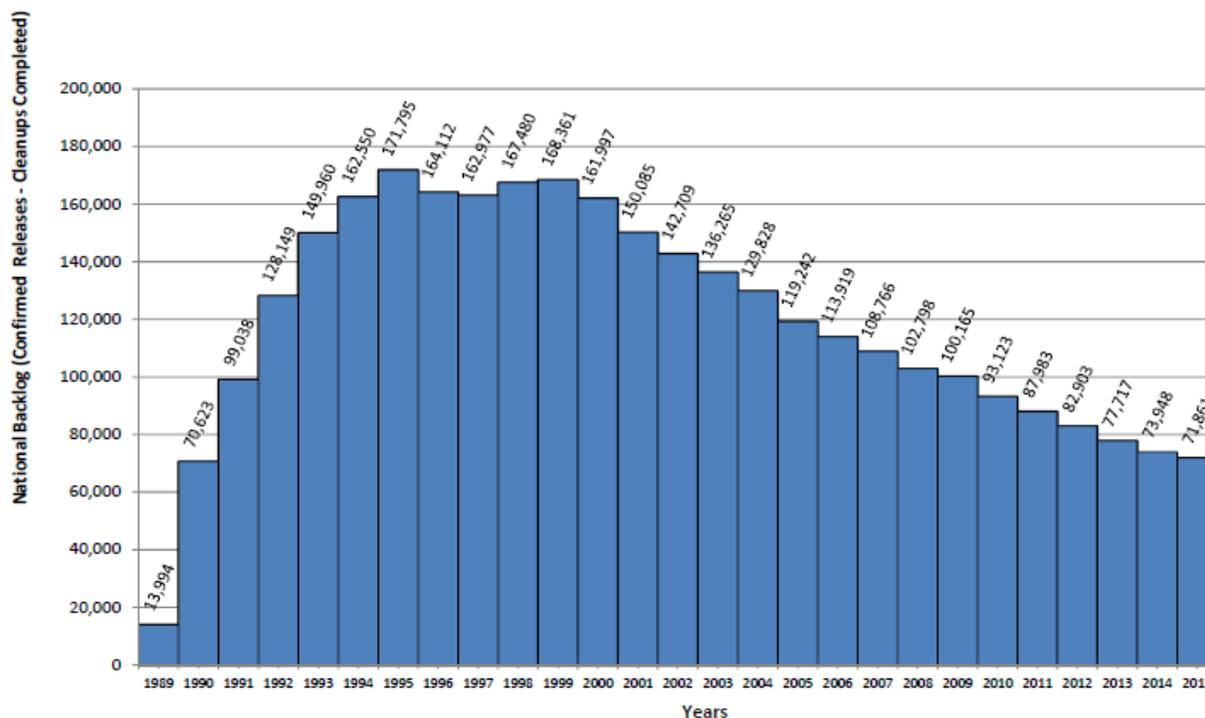
⁷ States as referenced here also include the District of Columbia and five territories as described in the definition of state in the Solid Waste Disposal Act.

⁸ See *The National LUST Cleanup Backlog: A Study Of Opportunities*, September 2011, <http://www.epa.gov/ust/national-lust-cleanup-backlog-study-opportunities>.

The chart below provides a history of the LUST sites that have not reached cleanup completion. It demonstrates that while considerable progress has been made over the last fifteen years, much work remains. The LUST Prevention program and LUST Cleanup program have an important relationship. The fewer new releases we experience in the future because of a robust prevention program will allow us to focus on existing and historic releases in the cleanup program. As the EPA has implemented improvements and increased frequency of inspections and other prevention efforts, there also has been a decrease in newly confirmed releases. The continued reduction in confirmed releases will remain a critical component in backlog reduction, but given that new releases are confirmed each year, maintaining cleanup progress is essential as well. In partnership with state and Tribal programs, strategies to reduce the number of remaining LUST sites that have not reached cleanup completion will leverage best practices and support management, guidance, and enforcement activities.

UST National Backlog

(LUST sites that have not reached cleanup completion)
FY 2004 – FY 2015



FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to enter into cooperative agreements with states to assist in completing LUST cleanups. The EPA must distribute 80 percent of the LUST funds appropriated for corrective action to states under cooperative agreements.⁹ The EPA’s backlog study helped identify where these funds should be directed by the states, as well as potential strategies to address the LUST sites that have not reached cleanup completion, and address new releases as they

⁹ See the Energy Policy Act of 2005, <http://www.gpo.gov/fdsys/pkg/PLAW-109publ58/html/PLAW-109publ58.htm>.

continue to be confirmed. With the goal of reducing the number of remaining LUST sites that have not reached cleanup completion, states will implement specific strategies and activities for their sites as they work to address their backlog of sites as well as new releases that are confirmed each year. Some states have already begun to see successes in reducing their backlogs through implementing specific strategies. For example, some states have taken a close look at their sites to see if some low levels of contamination could be left in place without posing unacceptable threats to human health and the environment. Other states are implementing third party oversight of cleanups, which has increased the number of sites cleaned up each year. States are evaluating the factors specific to their state and exploring strategies that address their state-specific conditions. As reported in the Association of State and Territorial Solid Waste Management Official's *Development and Implementation of State Tanks Core Programs Report*,¹⁰ released June 2014, states spend the majority of their federal funds to oversee cleanups. Due to recent resource constraints, states have indicated that they will be challenged to continue the pace of backlog reduction.

Twice each year, the EPA collects data regarding LUST performance measures and makes the data publicly available. The data include information such as the number of active and closed tanks, releases confirmed, cleanups initiated and completed, facilities in compliance with UST requirements, and inspections. The EPA compiles the data and presents it in table format for all states, territories, and Indian country.¹¹ Sites cleaned up in this program will support the FY 2016-2017 Agency Priority Goal to clean up contaminated sites to enhance the livability and economic vitality of communities.

End of year FY 2015 data show that, of the approximately 528,000 releases reported since the beginning of the UST program in 1988, more than 456,000 (or 86.4 percent) have been cleaned up. This means approximately 72,000 releases remain that have not reached cleanup completion. In addition, even though the EPA and its partners have made significant progress in reducing the number of new releases that add to this cleanup obligation, thousands of new releases are discovered each year.

Performance Targets:

Measure	(111) Percent of confirmed releases pending cleanup completion at UST facilities.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	No Target Established	No Target Established	No Target Established	No Target Established	15	14	13	12	Percent
Actual	19	18	16	15	14	14			
Measure	(112) Number of LUST cleanups completed that meet risk-based standards for human exposure and groundwater migration.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	12,250	12,250	11,250	10,100	9,000	8,600	8,600	8,600	Cleanups
Actual	11,591	11,169	10,927	11,582	10,393	9,869			

¹⁰ For more information, visit: http://www.astswmo.org/Files/Policies_and_Publications/Tanks/New_2014-06-ASTSWMO_Tanks_Core_Report_FINAL2.pdf.

¹¹ For more information, visit: <http://www.epa.gov/ust/ust-performance-measures>.

Work under this program supports performance results in the LUST/UST program under the LUST appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

The EPA counts the number of completed cleanups meeting risk-based standards for human exposure and groundwater migration. For FY 2017, the EPA is setting a goal of 8,600 cleanups achieving these standards. The FY 2017 target reflects a variety of challenges including the complexity of remaining sites, a decrease in available state resources, and the increasing cost of cleanups.

The EPA also measures the percent of historic LUST sites that have not reached cleanup completion. Beginning in FY 2014, the EPA set a goal of decreasing the percentage one percent each year through FY 2018. For FY 2017, the EPA is setting a goal of decreasing the percentage to 12. This decrease is in line with the percent decrease experienced over each of the last four years.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$638.0) This program change reflects a reduction of funds to implement cooperative agreements for LUST cleanup activities and may result in approximately 65 fewer cleanups in FY 2017. This is based on an EPA estimate that states can either directly fund or oversee approximately 100 sites for every \$1 million in grant funding. Despite this reduction, the EPA and its state partners will still be able to achieve the agency cleanup target of 8,600.

Statutory Authority:

Resource Conservation and Recovery Act, § 9003.

LUST Prevention

Program Area: Underground Storage Tanks (LUST / UST)
Goal: Cleaning Up Communities and Advancing Sustainable Development
Objective(s): Preserve Land

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Leaking Underground Storage Tanks</i>	\$25,369.8	\$25,369.0	\$27,859.0	\$2,490.0
Total Budget Authority / Obligations	\$25,369.8	\$25,369.0	\$27,859.0	\$2,490.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Leaking Underground Storage Tank (LUST) Prevention program works to ensure that underground sources of drinking water (groundwater) are protected from petroleum and associated chemicals leaking from storage tanks. These chemicals may include benzene, methyl-tertiary-butyl-ether (MTBE), alcohols, or lead scavengers in gasoline. Even a small amount of petroleum released from an underground storage tank (UST) can contaminate groundwater. Preventing leaks is far more effective, and less costly, than cleaning them up. This program provides funding to states,¹² tribes, and/or intertribal consortia to inspect, prevent releases, ensure compliance with federal and state laws, and enforce these laws for the 566,000 federally regulated active USTs. Over the history of the UST program, there have been over 528,000 releases confirmed and thousands of new releases are discovered each year. Yet the EPA and our partners have made significant progress in reducing the number of new releases. This work supports the EPA's cross-agency strategy Making a Visible Difference in Communities by working with state, Tribal, and local partners to prevent releases from underground storage tanks and protect precious water resources for the people living and working near UST sites across the country.

States rely primarily on federally funded assistance agreements to maintain inspection frequency and ensure compliance. Since about 80 percent of funding under LUST prevention assistance agreements is used for state staff salaries, this funding is critical to helping states meet the inspection and other implementation responsibilities.

Similarly, most tribes do not have independent UST program resources, and the EPA is responsible for implementing the UST regulations in Indian country and does so in partnership with tribes. LUST prevention assistance agreements will provide support for all aspects of the Tribal prevention programs (for example, developing compliance assistance and inspection capacity). Thus, the EPA's funding is critical in advancing the UST prevention and compliance program in Indian country.

The Energy Policy Act (EPA) of 2005 was enacted to further focus on preventing UST releases. In particular, EPA expanded eligible uses of the LUST Trust Fund and includes provisions

¹² States as referenced here also include the District of Columbia and the five territories as described in the definition of state in the Solid Waste Disposal Act.

regarding operator training, delivery prohibition, secondary containment, and financial responsibility.

The lack of proper UST system operation and maintenance is a main cause of releases.^{13,14} As a result, in July 2015,¹⁵ the EPA finalized the updated federal regulations for the UST program. As appropriate, states will work to update and implement corresponding state regulations.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA anticipates that several states may no longer be in compliance with the EPAct provision requiring each tank to be inspected at least once every three years due to historically reduced state and flat federal program resources. The agency will work with states to support compliance with this requirement and evaluate methods to increase efficiency and effectiveness. Major FY 2017 activities will include core program priorities required by the EPAct and the EPA's grant guidelines, such as inspecting UST facilities to meet the three-year inspection requirement and adopting prevention measures, as described in the revised UST regulations. These activities emphasize bringing UST systems into compliance with release detection and release prevention requirements and minimizing future releases.

To help prevent future releases, the EPA will work with tribes to develop their capacity to administer UST programs. This includes providing money to support training for Tribal staff, educating owners and operators in Indian country about UST requirements, and in some cases assisting Tribal staff to receive federal inspector credentials and perform inspections on behalf of the EPA. With few exceptions, tribes do not have independent UST program resources.

Twice each year, the EPA collects data regarding UST performance measures and makes the data publicly available. The data include the number of active and closed tanks, releases confirmed, cleanups initiated and completed, facilities in compliance with UST requirements, and inspections. The EPA compiles the data and presents it in table format for all states, territories, and Indian country.¹⁶ End of year FY 2015 data show:

- 86.4 percent of all cumulative confirmed releases have reached cleanup completion;
- 72.6 percent of the approximately 204,000 federally regulated UST facilities were in significant operational compliance, exceeding the FY 2015 performance target of 70.5 percent; and
- Releases are continuing to occur, with 6,830 reported for FY 2015.

Although the FY 2015 number of confirmed releases represents a slight increase, the increased emphasis on inspections and release prevention requirements have resulted in a general downward trend in the national number between 1994 and 2015.¹⁷

¹³ Petroleum Releases at Underground Storage Tank Facilities in Florida, Peer Review Draft, US EPA/OUST, March 2005.

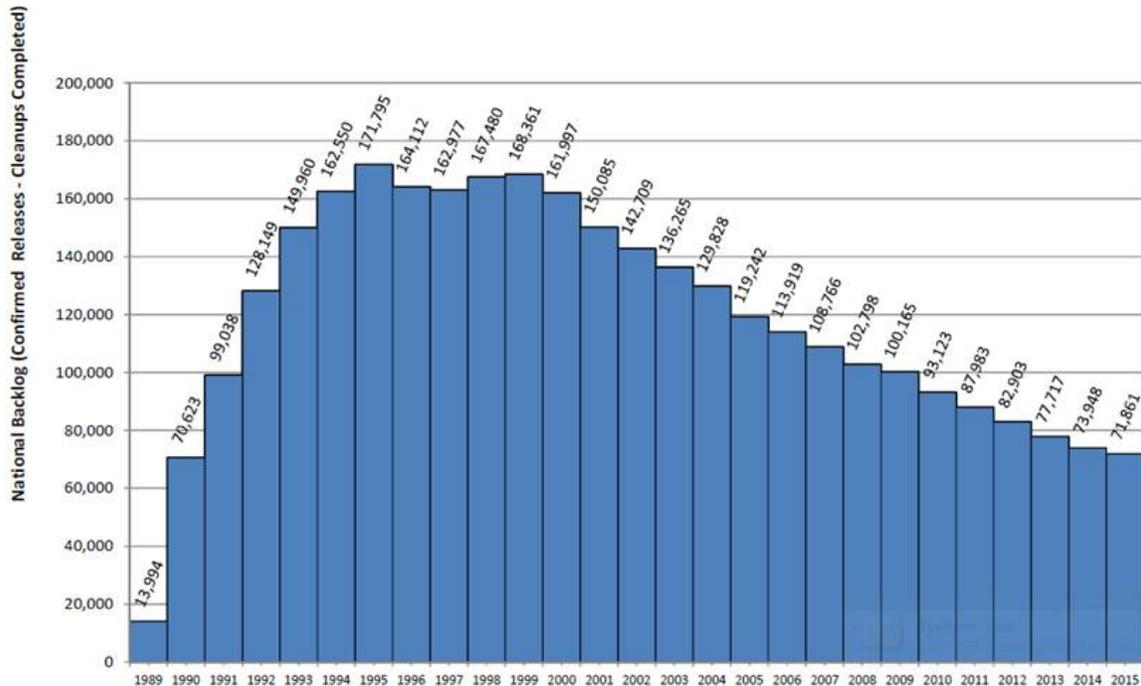
¹⁴ Evaluation of Releases from New and Upgraded Underground Storage Tanks, Peer Review Draft, US EPA/OUST, August 2004.

¹⁵ For more information, see: <http://www.gpo.gov/fdsys/pkg/FR-2015-07-15/pdf/2015-15914.pdf>.

¹⁶ For more information, see: <http://www.epa.gov/ust/ust-performance-measures>.

¹⁷ For more information, see: <http://www.epa.gov/sites/production/files/2015-11/documents/ca-15-34.pdf>.

**UST National Backlog:
FY 1989 Through End of Year
FY 2015**



This downward trend has occurred, despite an increase in the number of individual states missing their inspection targets due to decreased ability to pay inspectors. The increase in the FY 2017 budget will help those states meet their inspection targets. Additionally, in FY 2017, the EPA requests to realign state grant resources from the LUST Prevention program to the UST STAG program to allow states to revise state regulations, apply for SPA, and adopt the new federal regulations that were promulgated in July 2015. This realignment is requested for a three year period and will not change the overall allocation of state LUST funding.

Performance Targets:

Measure	(ST1) Reduce the number of confirmed releases at UST facilities to five percent (5%) fewer than the prior year's target.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	<9,000	<8,550	<8,120	<7,715	<7,330	<6,965	<6,615	<6,285	Releases
Actual	6,328	5,998	5,674	6,128	6,847	6,830			

Measure	(ST6) Increase the percentage of UST facilities that are in significant operational compliance (SOC) with both release detection and release prevention requirements by 0.5% over the previous year's target.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	65.5	66	66.5	67	70	70.5	71	71.5	Percent
Actual	69	71	71.3	71.6	72.5	72.6			

The UST program has continued to make progress in ensuring compliance and reducing releases. Performance under both of these measures at the national program level has steadily improved since implementation of the Energy Policy Act provisions, including regular inspections, despite struggles by individual states, as noted above.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$1,000.0) This is a realignment of state grant resources from the LUST Prevention program to the UST STAG program for a three year period in order for states to revise state regulations, apply for SPA, and adopt the new federal regulations that were promulgated in July 2015. As the allocation for prevention purposes is a combination of LUST Prevention and UST STAG program funding, the overall allocation for each state would not change, only the eligible uses for those funds would be expanded to fit the need to meet compliance.
- (+\$3,490.0) This program change increases critical resources to conduct approximately 4,000 more inspections in FY 2017 and further the EPA, states and tribes ability to maintain inspection frequency, ensure compliance, and help prevent future confirmed releases. This increase will help support those states struggling, due to recent budget constraints, to be in compliance with the EAct provision requiring each tank to be inspected at least once every three years.

Statutory Authority:

Resource Conservation and Recovery Act, §§ 9001-9011.

Program Area: Research: Sustainable Communities

Research: Sustainable and Healthy Communities

Program Area: Research: Sustainable Communities

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Promote Sustainable and Livable Communities

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Inland Oil Spill Programs	\$696.4	\$664.0	\$534.0	(\$130.0)
Science & Technology	\$138,347.5	\$139,975.0	\$134,327.0	(\$5,648.0)
<i>Leaking Underground Storage Tanks</i>	\$284.5	\$320.0	\$365.0	\$45.0
Hazardous Substance Superfund	\$14,611.0	\$14,032.0	\$11,463.0	(\$2,569.0)
Total Budget Authority / Obligations	\$153,939.4	\$154,991.0	\$146,689.0	(\$8,302.0)
Total Workyears	476.5	476.3	477.5	1.2

Program Project Description:

The EPA's Sustainable and Healthy Communities (SHC) research program under the Leaking Underground Storage Tanks (LUST) appropriation provides decision-makers with tools, methods, and information to prevent and control pollution at LUST sites. Specifically, this research enables decision-makers to better:

- Assess sites and evaluate the implications of alternative remediation techniques, policies, and management actions to assess and cleanup leaks at fueling stations;
- Identify the environmental impacts and unintended consequences of existing and new biofuels available in the marketplace; and
- Protect America's land and groundwater resources and drinking water supplies that could be impacted by the nation's approximately 600,000 underground fuel storage tanks.

Recent accomplishments include:

- Development of field screening methodology to assess petroleum vapor intrusion in buildings and software to assist in the implementation of the EPA's Land and Emergency Management program's (formerly the Solid Waste and Emergency Response program) guide for petroleum vapor intrusion. The screening methodology and software tool provide site managers with an economical and practical approach for addressing petroleum vapor intrusion in their site cleanup plans. Although this guide is helpful in assessing the potential for vapor intrusion, more research is needed to understand the impacts and remediation options.
- Analysis of three national databases to assess variability in fuel composition. This study provides information on both conventional and reformulated gasoline and their variations, data which are not otherwise commonly available. In recent years, varying fuel composition has been associated with vapor and liquid releases from underground storage tanks and corrosion of tank components. The study increases the EPA's understanding on

the fate and transport of contaminants from LUST sites and their potential impact on groundwater contamination and vapor intrusion.

- Completing a study on estimating site densities of private domestic wells. Private domestic wells (PDWs) are not subject to the testing requirements of the Safe Drinking Water Act and are therefore more susceptible to contamination from, for example, leaking underground storage tanks. For public health and planning purposes, it is important to determine the locations of high density PDW use. The estimates resulting from the EPA's pilot project in Oklahoma indicate locations where high densities of PDWs may be expected. Information on PDWs will assist states in triaging their inspections to address potential vulnerabilities to communities that are reliant on these drinking water supplies.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to conduct research on contaminated sites to assist the agency and the states in addressing the backlog of sites for remediation. This research will help communities characterize and remediate contaminated sites at an accelerated pace and lower costs while reducing human health and ecological impacts. Resulting methodologies and tools will help localities and states return properties to productive use, thus supporting the agency mission of protecting human health and the environment in the context of communities.

Also in FY 2017, the EPA's scientists will continue to work with its Underground Storage Tanks program to deliver improved characterization and remediation methods for fuels released from leaking underground storage tanks. Research also will address contaminant plume elongation and the associated risks to communities from the many underground storage tanks at fueling stations located near residences and residential water supplies. This research will inform tool development to assist communities and states to determine what remediation is needed to protect local ground water resources and reduce the potential for vapor intrusion into buildings. These tools will ultimately reduce costs to communities while better protecting future drinking water resources and preventing vapor intrusion.

Performance Targets:

Work under this program supports performance results in the Sustainable and Healthy Communities Program under the S&T appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

The EPA has established a standing subcommittee under the agency's Research and Development program's Board of Scientific Councilors (BOSC) for the SHC program to evaluate its performance and provide expert feedback to the agency. In addition, the agency's Research and Development program will meet regularly with both the BOSC and the Science Advisory Board over the next several years to seek their input on topics related to research program design, science quality, innovation, relevance and impact, within the context of the agency's Strategic Plan. This includes advising the EPA on its strategic research direction with the review of the agency

Research and Development program's recently released Strategic Research Action Plans (StRAPs).¹⁸

The EPA also collaborates with several science agencies and the research community to assess our research performance. For example, the EPA is partnering with the National Institutes of Health, National Science Foundation, Department of Energy, and Department of Agriculture. The EPA also works with the White House's Office of Science and Technology Policy and supports the interagency Science and Technology in America's Reinvestment—Measuring the Effect of Research on Innovation, Competitiveness and Science (STAR METRICS) effort.¹⁹

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$45.0) This program change reflects an increase to support on-going ethanol corrosion research.

Statutory Authority:

Resource Conservation and Recovery Act, §§ 1002, 1006, 8001; Safe Drinking Water Act, § 1442.

¹⁸ EPA Strategic Research Action Plans, <http://www.epa.gov/research/strategic-research-action-plans-2016-2019>.

¹⁹ STAR METRICS, <https://www.starmetrics.nih.gov/>.

**Environmental Protection Agency
2017 Annual Performance Plan and Congressional Justification**

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**Environmental Protection Agency
FY 2017 Annual Performance Plan and Congressional Justification**

**APPROPRIATION: Inland Oil Spill Programs
Resource Summary Table
(Dollars in Thousands)**

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Inland Oil Spill Programs				
Budget Authority	\$18,269.8	\$18,209.0	\$25,410.0	\$7,201.0
Total Workyears	89.4	98.3	98.3	0.0

Bill Language: Inland Oil Spill Program

For expenses necessary to carry out the Environmental Protection Agency's responsibilities under the Oil Pollution Act of 1990, \$25,410,000, to be derived from the Oil Spill Liability trust fund, to remain available until expended. (Department of the Interior, Environment, and Related Agencies Appropriations Act, 2016.)

**Program Projects in Oil Spills
(Dollars in Thousands)**

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Compliance				
Compliance Monitoring	\$136.3	\$139.0	\$160.0	\$21.0
Enforcement				
Civil Enforcement	\$2,438.4	\$2,413.0	\$2,492.0	\$79.0
Oil				
Oil Spill: Prevention, Preparedness and Response	\$14,500.7	\$14,409.0	\$20,461.0	\$6,052.0
Operations and Administration				
Facilities Infrastructure and Operations	\$498.0	\$584.0	\$1,763.0	\$1,179.0
Research: Sustainable Communities				
Research: Sustainable and Healthy Communities	\$696.4	\$664.0	\$534.0	(\$130.0)
Subtotal, Research: Sustainable and Healthy Communities	\$696.4	\$664.0	\$534.0	(\$130.0)
TOTAL, EPA	\$18,269.8	\$18,209.0	\$25,410.0	\$7,201.0

Program Area: Compliance

Compliance Monitoring

Program Area: Compliance

Goal: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

Objective(s): Enforce Environmental Laws to Achieve Compliance

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Inland Oil Spill Programs</i>	<i>\$136.3</i>	<i>\$139.0</i>	<i>\$160.0</i>	<i>\$21.0</i>
Environmental Program & Management	\$103,440.4	\$101,665.0	\$111,270.0	\$9,605.0
Hazardous Substance Superfund	\$1,001.7	\$995.0	\$1,099.0	\$104.0
Total Budget Authority / Obligations	\$104,578.4	\$102,799.0	\$112,529.0	\$9,730.0
Total Workyears	508.8	539.6	539.6	0.0

Program Project Description:

The EPA’s Compliance Monitoring program’s goal is to assure compliance with the nation’s environmental laws and protect human health and the environment through inspections and other compliance monitoring activities. Compliance monitoring is comprised of all activities that determine whether regulated entities are in compliance with applicable laws, regulations, permit conditions, and settlement agreements. In addition, the EPA conducts compliance monitoring activities to determine whether conditions exist that may present imminent and substantial threat to public health or welfare of the United States. Compliance monitoring activities include data collection, analysis, data quality review, on-site compliance inspections/evaluations, investigations, and reviews of facility records and reports.

The Clean Water Act (CWA) Section 311 compliance monitoring program for Spill Prevention, Control, and Countermeasure (SPCC) is designed to assure compliance with the governing spill prevention regulations. The Section 311 Facility Response Plans (FRP) compliance monitoring program uses tools and strategies to verify that regulated facilities prepare for and are able to respond to any oil spill affecting the inland waters of the United States.

In FY 2015, the program worked closely with the Office of Land and Emergency Management to develop guidance documents that establish procedures and forms for inspectors when conducting closing conferences and communicating inspection deficiencies at SPCC and FRP facilities. This effort included guidance and forms applicable to government initiated unannounced exercise (GIUE) compliance observations at FRP facilities. These products are important in maintaining national consistency and integrity of compliance monitoring activities at facilities subject to CWA 311.

FY 2017 Activities and Performance Plan:

In FY 2017, the agency will continue to conduct inspections and other core activities to determine regulated facility compliance with Section 311 of the CWA. There is currently a universe of over

640,000 SPCC-regulated facilities under the EPA's jurisdiction, including a subset of roughly 4,400 facilities subject to FRP requirements. The EPA ensures that the management and oversight of the compliance monitoring program is enhanced by the exchange of information from the FRP and SPCC data systems to the EPA's Integrated Compliance Information System (ICIS). This exchange provides the EPA the opportunity to focus compliance monitoring resources on areas of highest risk, and increase transparency to the public of this enforcement and compliance data. In addition, submitting this information into ICIS electronically provides a more complete set of information for this program and improves data quality. In FY 2017, ICIS will continue to support a more comprehensive analysis and better management of the FRP and SPCC programs.

Performance Targets:

This program's efforts support performance results in the Compliance Monitoring program project in the Environmental Programs and Management (EPM) appropriation and can be found in the Eight-Year Performance Array in the Program Performance and Assessment section. Work under this program supports the EPA's Agency Priority Goals, addressing water quality, as well as spill prevention and emergency response. The EPA's Agency Priority Goals can be found in Appendix A.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$14.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$7.0) This program change reflects an increase in funding for information systems that support oil inspections.

Statutory Authority:

Clean Water Act; Oil Pollution Act; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Program Area: Enforcement

Civil Enforcement

Program Area: Enforcement

Goal: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

Objective(s): Enforce Environmental Laws to Achieve Compliance

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Inland Oil Spill Programs</i>	\$2,438.4	\$2,413.0	\$2,492.0	\$79.0
Environmental Program & Management	\$169,963.4	\$171,377.0	\$182,497.0	\$11,120.0
Leaking Underground Storage Tanks	\$588.1	\$620.0	\$668.0	\$48.0
Total Budget Authority / Obligations	\$172,989.9	\$174,410.0	\$185,657.0	\$11,247.0
Total Workyears	1,046.5	1,080.4	1,081.4	1.0

Program Project Description:

The EPA's Civil Enforcement program's goal is to assure compliance with the nation's environmental laws to protect human health and the environment. Effective enforcement is essential to deter violations and to promote compliance with federal environmental statutes and regulations. The program collaborates with the United States Department of Justice, states, local agencies, and Tribal governments to ensure consistent and fair enforcement of environmental laws and regulations. The program seeks to focus on violations that threaten communities and level the economic playing field by ensuring that violators do not realize an economic benefit from noncompliance and deter future violations. The Civil Enforcement program develops, litigates, and settles administrative and civil judicial cases against serious violators of environmental laws.

The Civil Enforcement program's enforcement of Section 311 of the Clean Water Act (CWA), as amended by the Oil Pollution Act of 1990 (OPA) is designed to ensure compliance with the prohibition against oil and hazardous substance spills, as well as the oil spill prevention, response planning, and other regulatory requirements. The EPA's Civil Enforcement program develops policies, issues administrative orders or penalty actions, and/or refers civil judicial actions to the Department of Justice to address spills, violations of spill prevention, response planning regulations, and other violations (e.g., improper dispersant use or noncompliance with orders). The program also will assist in the recovery of cleanup costs expended by the government. The program provides support for field investigations of spills, Spill Prevention, Control, and Countermeasure (SPCC), Facility Response Plan (FRP), and other requirements.

FY 2017 Activities and Performance Plan:

In FY 2017, the Civil Enforcement program will continue efforts to ensure regulatory compliance, address oil or hazardous substance spills in violation of the statute and prevent future spills. These efforts are particularly critical given the number of SPCC-regulated facilities (over 640,000 facilities) and the comparatively modest number of inspection and enforcement personnel. Civil enforcement efforts will focus on facilities where enforcement will promote deterrence, require

action to address spill causes, and confirm that spills are cleaned up and mitigated. These efforts require a large investment of enforcement resources to follow up on violations discovered during complex inspections or enforcement investigations, and can require coordination with other regulatory agencies (e.g., U.S. Coast Guard and U.S. Fish & Wildlife Service).

The EPA's enforcement response to the Deepwater Horizon oil spill will continue in FY 2017 as the agency, together with the U.S. Department of Justice, conclude a record settlement in excess of \$18.0 billion in penalties and natural resource damages with BP. This settlement follows a civil trial which began in February 2013, and concluded in February 2015. The settlement with BP was reached after the trial but before the court's ruling. A Consent Decree memorializing the settlement was lodged with the court in the first quarter of FY 2016. Some highlights of Deepwater related activities that have occurred to date include:

- The EPA obtained a record settlement of \$1 billion with Transocean for its liability for the Deepwater Horizon Gulf of Mexico oil spill.¹
- Pursuant to the RESTORE Act, \$800 million of the Transocean penalty went to the Gulf Coast Restoration Trust Fund to fund programs, projects, and activities that restore and protect the environment and economy of the Gulf Coast region.²
- In October 2015, a \$20.8 billion settlement with BP was filed with the courts, that include:
 - A \$5.5 billion Clean Water Act penalty, 80 percent of which will go to restoration efforts in the affected states pursuant to a Deepwater-specific statute, the RESTORE Act. This is the largest civil penalty in the history of environmental law.
 - \$8.1 billion in natural resource damages (this includes \$1 billion BP already committed for early restoration). BP also will pay an additional \$700 million specifically to address any future natural resource damages unknown at the time of the agreement and assist in adaptive management needs. The natural resource damages money will fund gulf restoration projects as designated by the federal and state natural resource damage trustees.
 - \$5.9 billion to settle claims by state and local governments for economic damages they have suffered as a result of the spill.
 - A total of \$600 million for other claims, including claims for reimbursement of natural resource damage assessment costs and other unreimbursed federal expenses due to this incident.
- In November 2015, a \$159.9 million penalty was assessed by the court against Anadarko Petroleum Co., a co-owner of the well with BP. Eighty percent of this penalty will likewise be directed for Gulf restoration efforts pursuant to the RESTORE Act.
- For more information on the EPA's response to the Deepwater spill and results to date, see: <http://www2.epa.gov/enforcement/deepwater-horizon-bp-gulf-mexico-oil-spill>.

Performance Targets:

Work under this program supports the performance measures in the Civil Enforcement program under the Environmental Programs and Management appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment section.

¹ For additional information, refer to: <http://www.justice.gov/opa/pr/2013/January/13-ag-004.html>.

² For additional information, refer to: <http://www.restore.ms/transocean-settlement/>.

Work under this program supports both the Oil Spill Liability Trust Fund as well as the Gulf Coast Restoration Trust Fund. Work under this program supports the EPA's Agency Priority Goal of addressing water quality and prevention and emergency response. A list of the EPA's Agency Priority Goals can be found in Appendix A.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$231.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (-\$152.0) This program change reflects a reduction for the Deepwater Horizon oil spill clean-up due to a settlement being reached. The Civil Enforcement program will continue efforts to ensure regulatory compliance, address oil or hazardous substance spills in violation of the statute and prevent future spills.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute); Clean Water Act; Oil Pollution Act.

Program Area: Oil

Oil Spill: Prevention, Preparedness and Response

Program Area: Oil

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Restore Land

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Inland Oil Spill Programs</i>	<i>\$14,500.7</i>	<i>\$14,409.0</i>	<i>\$20,461.0</i>	<i>\$6,052.0</i>
Total Budget Authority / Obligations	\$14,500.7	\$14,409.0	\$20,461.0	\$6,052.0
Total Workyears	74.5	83.1	83.1	0.0

Program Project Description:

The EPA's Oil program protects U.S. waters by preventing, preparing for, and responding to inland oil spills. The discharge of oil into U.S. waters from facilities can threaten human health and cause severe environmental damage. The Deepwater Horizon (DWH) oil spill resulted in 11 deaths, millions of barrels³ of spilled oil, and untold economic and environmental damage. More than 30,000 oil discharges and hazardous substance releases occur in the U.S. every year, with a number of these spills occurring in the inland zone for which the EPA has jurisdiction. The EPA responds to about 200 of these oil spills each year.

The EPA serves as the lead responder for cleanup of all inland zone spills, including transportation related spills from pipelines, trucks, railcars, and other transportation systems. It also establishes the framework for some of the EPA's preparedness and prevention responsibilities such as the development of the Area Contingency Plans (ACPs). The Spill Prevention, Control and Countermeasure (SPCC) regulation and the Facility Response Plan (FRP) regulation comprise the other remaining components of the agency's oil spill prevention and preparedness activities.

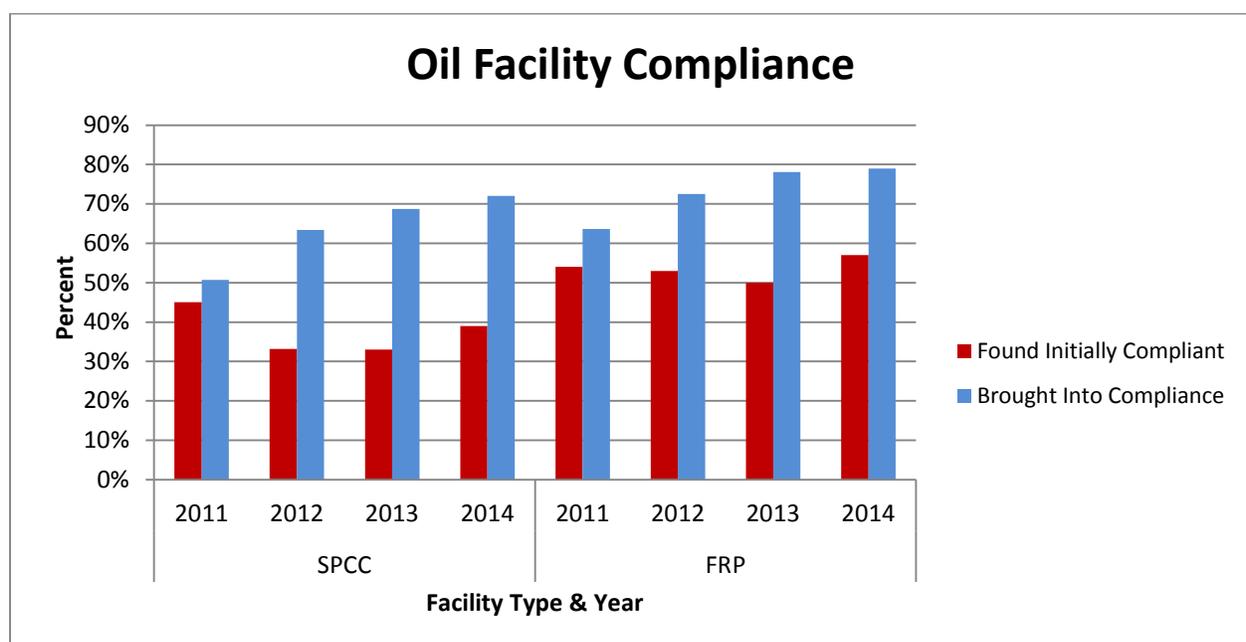
The EPA conducts oil spill prevention, preparedness, compliance assistance and enforcement activities associated with more than 640,000 non-transportation-related oil storage facilities that the EPA regulates through its spill prevention program. The largest and highest risk oil storage facilities and refineries must prepare facility response plans (FRPs) to identify response resources and ensure their availability in the event of a worst case discharge. FRPs establish communication procedures, address security and evacuation procedures, identify an individual with authority to implement response actions, and describe training and testing drills at the facility.

The Oil program assists with multi-media training and exercise development/implementation for responders, which establish and sustain coordination with states, local communities, tribes and other federal officials. In addition, the program may provide technical assistance, assets, and outreach to industry, states, and local communities as part of the agency's effort to ensure national safety and security for chemical and oil incidents.

³ Complaint: United States of America vs. BP Production and Exploration Inc., and related companies: <http://www2.epa.gov/sites/production/files/2013-10/documents/deepwater-cp121510.pdf>.

The EPA conducts its activities as part of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP),⁴ the federal government's plan for responding to both oil spills and releases of hazardous substances. The EPA accesses the Oil Spill Liability Trust Fund, administered by the U.S. Coast Guard (USCG), to obtain reimbursement for site-specific oil spill response activities. However, the EPA utilizes congressionally appropriated Oil funding requested here to support oil spill prevention and preparedness, response readiness in the inland zone, and compliance monitoring through inspections.⁵

Ensuring compliance by oil storage facilities subject to the EPA's SPCC and FRP rules is a crucial part of oil spill prevention and preparedness. The EPA's data has identified trends that demonstrate that efforts to develop improved targeting mechanisms and to inspect facilities that pose higher risks of an oil discharge are showing positive results (see chart below).⁶



Following the EPA's inspection efforts, SPCC and FRP facilities that are not initially compliant are generally brought into compliance. Since FY 2010, the EPA has exceeded its yearly targets for bringing facilities into compliance, helping to improve facility oil spill preparedness and prevent oil spills. The EPA has implemented improved guidance on both high risk facility targeting and procedures to streamline inspections, both of which were developed to ensure national consistency for compliance inspections.

⁴ For additional information, refer to: <http://www.epa.gov/emergency-response/national-oil-and-hazardous-substances-pollution-contingency-plan-ncp-overview>.

⁵ For additional information, refer to <http://www.epa.gov/oilspill/>.

⁶ Chart presents data as of end of FY 2014. Data represent the percentage of facilities found initially compliant in a particular year and facilities previously found to not be in compliance that were brought into compliance out of the respective sets of facilities inspected. Therefore, the numbers do not total to 100 percent.

FY 2017 Activities and Performance Plan:

In FY 2017, the agency will (1) conduct inspections to ensure appropriate and effective prevention measures, (2) review and approve FRPs which document facilities' plans and ability to respond to spills, (3) work to review and update oil processes and regulations to better characterize the regulated universe and address risk, (4) conduct exercises and maintain a coordinated level of preparedness, and (5) coordinate with local partners to update and maintain ACPs. In FY 2017, the EPA requests \$2 million in additional resources to coordinate and provide specialized training for responders on incidents that occur as a result of increased production and shipment of crude shale oils. Increased domestic production rates and increased shipment of oil by rail, combined with the hazards of crude shale oil in particular, pose new challenges for the EPA and the state and local responder community. These oils, such as Bakken and Dilbit, are particularly risky due to their highly explosive nature and react differently than traditional crude oils when released into the environment.

The EPA will work with federal, state, local, and Tribal officials to strengthen ACPs and Regional Contingency Plans. As production and shipment of crude shale oils and unconventional oil shales (Bakken and Dilbit) increases, so do risks in transportation and response. The ACPs and response techniques will require continued updating. The ACPs detail the responsibilities of various parties in the event of a spill/release, describe unique geographical features, sensitive ecological resources, drinking water intakes for the area covered, and identify available response equipment and its location. The ACPs also provide key information to responders and all stakeholders regarding potential impacts and options available to On-Scene Coordinators (OSCs) and responders. This includes the resources to identify potential mechanical or chemical countermeasure response options, and other resource considerations. Additionally, the EPA and USCG will continue to collaborate with the National Response Team and Regional Response Teams to review and revise ACPs to reflect lessons learned during relevant oil spill responses. Recent significant growth in the transportation of crude oil in the U.S. by rail, pipeline, and vessels and associated accidental discharges has created an increased need for response preparedness.

Comprehensive FRP and SPCC data maintained in the National Oil Database serve as the data of record and are an important component for day-to-day management of plans, inspections/drills, and related activities. This database has streamlined the process for assisting facilities with compliance, equipping inspectors for more efficient inspection processes, and informing program management and measurement activities. The database manages information obtained from new and historical SPCC inspections in an effort to supplement data from states and other sources about the SPCC-regulated universe in lieu of a costly and burdensome registration requirement. In FY 2017, the agency plans to continue its development for electronic submission of FRPs. FRP facilities are currently required to submit their plans to the EPA, while SPCC facilities maintain their plans onsite. The EPA will continue to coordinate with SPCC/FRP inspectors on how to properly utilize and manage this database and ensure consistent data entry.

The FY 2017 Oil Spill program requests an increase of \$3.3 million from the FY 2016 Enacted Budget to carry out the non-training functions of the program. The request provides additional resources for inspections at high risk FRP regulated facilities. These inspections require more extensive resources due to the complex nature of the facilities and the remote location of some

facilities. While the EPA cannot inspect every facility every year, the agency will continue to use resources to prioritize inspections at high risk facilities, new facilities which have recently submitted FRPs, and facilities which have not been inspected in five or more years. The EPA also will continue its efforts to improve compliance outreach and technical assistance to industry while maintaining a steady level of emergency preparedness.

The EPA has responsibility for Subpart J of the NCP regulation, which includes a Product Schedule that lists bioremediation, dispersants, surface washing, surface collection, and other agents that may be used to remediate oil spills. The EPA published a proposed rule on January 22, 2015, and is in the process of analyzing the comments received from stakeholders. In 2017, the EPA expects to finalize the Subpart J rule and propose modifications to the SPCC rule to address the requirements imposed by the Water Resources Reform and Development Act (WRRDA).

Performance Targets:

Measure	(337) Percent of all FRP inspected facilities found to be non-compliant which are brought into compliance.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	15	30	35	40	50	60	60	60	Percent
Actual	48	48	73	78	79	79			

Measure	(338) Percent of all Spill Prevention, Control and Countermeasure (SPCC) inspected facilities found to be non-compliant which are brought into compliance.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	15	30	35	40	50	60	60	60	Percent
Actual	36	45	63	69	72	74			

The EPA’s regulated universe includes approximately 4,400 FRP facilities and over 640,000 SPCC facilities. In FY 2017, the EPA’s goal is to bring into compliance 60 percent of FRP facilities that were found to be non-compliant during FY 2010 through FY 2016 by the end of FY 2017. The EPA will emphasize emergency preparedness, particularly through the use of unannounced drills and exercises, to ensure facilities and responders can effectively implement response plans. Similar to the FRP measure mentioned above, the EPA’s goal is to bring into compliance 60 percent of SPCC facilities that were found to be non-compliant during FY 2010 through FY 2016 by the end of FY 2017.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$790.0) This change to fixed and other costs reflects the recalculation of base workforce costs for existing FTE due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$2,000.0) This program change reflects an increase to support emergency responder trainings associated with the increased transportation and production of crude shale oils. Increased domestic production rates and increased shipment of oil by rail, combined with the hazards of crude shale oil, pose new challenges for the EPA.

- (+\$3,262.0) This program change reflects an increase for oil accident prevention and preparedness activities including support for inspections at FRP (high risk) facilities, compliance and outreach activities, and further technical assistance for agency inspectors.

Statutory Authority:

Clean Water Act, § 311.

Program Area: Operations and Administration

Facilities Infrastructure and Operations
Program Area: Operations and Administration

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Inland Oil Spill Programs</i>	<i>\$498.0</i>	<i>\$584.0</i>	<i>\$1,763.0</i>	<i>\$1,179.0</i>
Science & Technology	\$67,222.2	\$68,339.0	\$78,447.0	\$10,108.0
Environmental Program & Management	\$313,026.1	\$311,540.0	\$329,281.0	\$17,741.0
Leaking Underground Storage Tanks	\$757.9	\$783.0	\$1,101.0	\$318.0
Building and Facilities	\$33,326.3	\$35,641.0	\$44,203.0	\$8,562.0
Hazardous Substance Superfund	\$77,680.0	\$74,278.0	\$70,960.0	(\$3,318.0)
Total Budget Authority / Obligations	\$492,510.5	\$491,165.0	\$525,755.0	\$34,590.0
Total Workyears	327.1	350.2	349.9	-0.3

Program Project Description:

The EPA's Facilities Infrastructure and Operations Program in the Inland Oil Spill Response appropriation supports the agency's rent, transit subsidy, and facility operations. Funding for such services is allocated among major appropriations for the agency.

FY 2017 Activities and Performance Plan:

The agency will continue to conduct rent reviews and verify monthly billing statements for its lease agreements with the General Services Administration and other private landlords. For FY 2017, the EPA is requesting \$1.69 million for rent in the Inland Oil Spills appropriation.

Performance Targets:

Work under this program supports the performance measures in the Facilities Infrastructure and Operations program under the EPM appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment section. Information on the agency's energy/GHG reduction initiative can be found in the agency's Strategic Sustainability Performance Plan.⁷

⁷ For additional information, refer to: <http://www.epa.gov/greeningepa/epa-strategic-sustainability-plans>.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$1,290.0) This change to fixed and other costs is an increase due to the recalculation of transit subsidy and rent.
- (-\$111.0) This program change reflects a reduction in operations and maintenance costs for the EPA facilities nationwide.

Statutory Authority:

Federal Property and Administration Services Act; Public Building Act; Robert T. Stafford Disaster Relief and Emergency Assistance Act; Clean Water Act; Clean Air Act; Resource Conservation and Recovery Act (RCRA); Toxic Substances Control Act (TSCA); National Environmental Policy Act (NEPA); Community Environmental Response Facilitation Act (CERFA); Energy Policy Act of 2005; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA’s organic statute).

Program Area: Research: Sustainable Communities

Research: Sustainable and Healthy Communities

Program Area: Research: Sustainable Communities

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Promote Sustainable and Livable Communities

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Inland Oil Spill Programs</i>	<i>\$696.4</i>	<i>\$664.0</i>	<i>\$534.0</i>	<i>(\$130.0)</i>
Science & Technology	\$138,347.5	\$139,975.0	\$134,327.0	(\$5,648.0)
Leaking Underground Storage Tanks	\$284.5	\$320.0	\$365.0	\$45.0
Hazardous Substance Superfund	\$14,611.0	\$14,032.0	\$11,463.0	(\$2,569.0)
Total Budget Authority / Obligations	\$153,939.4	\$154,991.0	\$146,689.0	(\$8,302.0)
Total Workyears	476.5	476.3	477.5	1.2

Program Project Description:

The EPA is the lead Federal on-scene coordinator for inland oil spills and provides technical assistance, when needed, for coastal spills. The EPA is therefore charged with responsibilities for oil spill preparedness and response and associated research. The EPA's research, planned in concert with our partner agencies (U.S. Coast Guard, Department of the Interior, Department of Transportation, and Department of Commerce) supports the EPA's lead role in developing protocols for testing spill response products and agents.

The Sustainable and Healthy Communities (SHC) research program for inland oil spills, funded through the Oil Spill Liability Trust Fund,⁸ provides decision makers with analysis and tools to protect human and ecosystem health from the negative impacts of oil spills. These decision makers include federal partner agencies, the EPA Program and Regional offices, as well as State and local officials.

Supporting local officials in their response to a spill is another way the EPA is making a visible difference in communities. As a result of this research, oil spill responders will be able to make better decisions on approaches and methods to reduce the spread and impact of coastal and inland oil spills, including pipeline and railway spills. Additionally, the EPA's remediation expertise is critical in addressing potential impacts to communities and their environmental resources associated with pipeline and railway oil spills.

In support of these response efforts, the EPA conducts research in support of the agency's National Contingency Plan (NCP) Product Schedule.⁹ The NCP is used nation-wide by emergency responders and federal agencies in responding to oil spills. The EPA's role is to develop and evaluate response approaches involving bioremediation, dispersants, and other additives, and to assess impacts to surface water and groundwater, especially as they affect drinking water supplies.

⁸ http://www.uscg.mil/ccs/npfc/About_NPFC/osltf.asp.

⁹ <http://www2.epa.gov/emergency-response/national-contingency-plan-subpart-j>.

The EPA's Land and Emergency Management program and Regional Offices rely on this research to provide testing procedures that inform cleanup decisions during an emergency spill response.

Recent EPA research supporting the NCP includes:

- Biodegradation research results for different dispersants (JD2000, Corexit 9500) and for different oils (Alaska Endicott crude, southern Louisiana crude). These provided OLEM with important information on the biodegradability of surfactants used in dispersing oil during a spill. The EPA's research results will inform decision makers on how long surfactant chemicals can potentially persist in the environment after use in responding to an oil spill, thus supporting the agency's goal of protecting communities.
- Developing an Oil Surface Washing Agent Protocol. Surface Washing Agents (SWAs), also known as shoreline cleaning agents, are listed in the NCP and can be used following an oil spill event to enhance the removal of stranded oil from shoreline surfaces. The EPA has been developing a laboratory effectiveness test for SWA. The effectiveness test will serve as a basis for proposed new listing criteria for the SWA products in the NCP.

FY 2017 Activities and Performance Plan

In FY 2017, the EPA will continue to develop or revise protocols to test oil spill control agents or products for listing on the National Contingency Plan (NCP) Product Schedule and will conduct other research, as needed by the EPA's Emergency Management Program. In addition, the agency will continue to conduct studies on the effectiveness of bioremediation of petroleum-based oil, vegetable oil, and biodiesel.

The EPA plans to conduct research in FY 2017 on dispersants' performance and behavior in deep water and arctic spills. This dispersant research will be conducted in collaboration with the Department of the Interior's Bureau of Safety and Environmental Enforcement (BSEE) and Canada's Department of Fisheries and Oceans.

Performance Targets:

Work under this program supports performance results in the Sustainable and Healthy Communities Program under the S&T appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

The EPA has established a standing subcommittee under the agency's Research and Development program's Board of Scientific Counselors (BOSC) for the SHC program to evaluate its performance and provide expert feedback to the agency. In addition, the agency's Research and Development program will meet regularly with both the BOSC and the Science Advisory Board over the next several years to seek their input on topics related to research program design, science quality, innovation, relevance and impact, within the context of the agency's Strategic Plan. This includes advising the EPA on its strategic research direction with the review of the agency's Research and Development program's recently released Strategic Research Action Plans (StRAPs).¹⁰

¹⁰ EPA Strategic Research Action Plans, <http://www.epa.gov/research/strategic-research-action-plans-2016-2019>.

The EPA also collaborates with several science agencies and the research community to assess our research performance. For example, the EPA is partnering with the National Institutes of Health, National Science Foundation, Department of Energy, and Department of Agriculture. The EPA also works with the White House's Office of Science and Technology Policy and supports the interagency Science and Technology in America's Reinvestment—Measuring the Effect of Research on Innovation, Competitiveness and Science (STAR METRICS) effort.¹¹

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$1.0) This change reflects a decrease to fixed and other costs for the agency recalculation of base workforce costs due to adjustments in salary, working capital fund, and benefits for essential research program support.
- (-\$129.0) This program change reflects a reduction to research related to oil dispersion and delays chemical characterization and product testing for screening and subsequent selection of new EPA National Contingency Plan Product Schedule reference oils.

Statutory Authority:

Oil Pollution Act; Clean Water Act, § 311.

¹¹ STAR METRICS, <https://www.starmetrics.nih.gov/>.

**Environmental Protection Agency
2017 Annual Performance Plan and Congressional Justification**

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**Environmental Protection Agency
FY 2017 Annual Performance Plan and Congressional Justification**

**APPROPRIATION: State and Tribal Assistance Grants
Resource Summary Table
(Dollars in Thousands)**

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
State and Tribal Assistance Grants				
Budget Authority	\$3,573,153.5	\$3,518,161.0	\$3,280,400.0	(\$237,761.0)
Total Workyears	3.2	0.0	0.0	0.0

Bill Language: STAG

For environmental programs and infrastructure assistance, including capitalization grants for State revolving funds and performance partnership grants, \$3,280,400,000, to remain available until expended, of which—

(1) \$979,500,000 shall be for making capitalization grants for the Clean Water State Revolving Funds under title VI of the Federal Water Pollution Control Act; and of which \$1,020,500,000 shall be for making capitalization grants for the Drinking Water State Revolving Funds under section 1452 of the Safe Drinking Water Act: Provided, That for fiscal year 2017, to the extent there are sufficient eligible project applications and projects are consistent with State Intended Use Plans, not less than 20 percent of the funds made available under this title to each State for Clean Water State Revolving Fund capitalization grants shall be used by the State for projects to address green infrastructure or other environmentally innovative activities:

Provided further, That for fiscal year 2017, funds made available under this title to each State for Drinking Water State Revolving Fund capitalization grants may, at the discretion of each State, be used for projects to address green infrastructure, water or energy efficiency improvements, or other environmentally innovative activities:

Provided further, That notwithstanding section 603(d)(7) of the Federal Water Pollution Control Act, the limitation on the amounts in a State water pollution control revolving fund that may be used by a State to administer the fund shall not apply to amounts included as principal in loans made by such fund in fiscal year 2017 and prior years where such amounts represent costs of administering the fund to the extent that such amounts are or were deemed reasonable by the Administrator, accounted for separately from other assets in the fund, and used for eligible purposes of the fund, including administration:

Provided further, That notwithstanding section 603(d)(7) of the Federal Water Pollution Control Act, the limitation on the amounts in a State water pollution control revolving fund that may be used by a State to administer the fund shall not apply to amounts included as principal in loans made by such fund in fiscal year 2017 and prior years where such amounts represent costs of administering the fund to the extent that such amounts are or were deemed reasonable by the Administrator, accounted for separately from other assets in the fund, and used for eligible purposes of the fund, including administration: Provided further, That notwithstanding section

603(d)(7) of the Federal Water Pollution Control Act, the limitation on the amounts in a State water pollution control revolving fund that may be used by a State to administer the fund shall not apply to amounts included as principal in loans made by such fund in fiscal year 2017 and prior years where such amounts represent costs of administering the fund to the extent that such amounts are or were deemed reasonable by the Administrator, accounted for separately from other assets in the fund, and used for eligible purposes of the fund, including administration:

Provided further, That for fiscal year 2017, notwithstanding the provisions of sections 201(g)(1), (h), and (l) of the Federal Water Pollution Control Act, grants under Title II of the Federal Water Pollution Control Act for American Samoa, Guam, the Commonwealth of the Northern Marianas, the United States Virgin Islands, and the District of Columbia may also be made for the purpose of providing assistance: (1) solely for facility plans, design activities, or plans, specification, and estimates for any proposed project for the construction of treatment works; and (2) for the construction, repair, or replacement of privately owned treatment works serving one or more principal residences or small commercial establishments;

Provided further, That for fiscal year 2017, notwithstanding the provisions of 201(g)(1), (h), and (l) and section 518(c) of the Federal Water Pollution Control Act, funds reserved by the Administrator for grants under section 518(c) of the Federal Water Pollution Control Act may also be used to provide assistance: (1) solely for facility plans, design activities, or plans, specifications, and estimates for any proposed project for the construction of treatment works; and (2) for the construction, repair, or replacement of privately owned treatment works serving one or more principal residences or small commercial establishments; Funds reserved under section 518(c) of such Act shall be available for grants only to Indian tribes, as defined in section 518(h) of such Act and former Indian reservations in Oklahoma (as defined by the Secretary of the Interior) and Native Villages as defined in Public Law 92–203:

Provided further, That for fiscal year 2017, notwithstanding any provision of the Clean Water Act and regulations issued pursuant thereof, up to a total of \$2,000,000 of the funds reserved by the Administrator for grants under section 518(c) of the Federal Water Pollution Control Act may also be used for grants for training, technical assistance, and educational programs relating to the operation and management of the treatment works specified in section 518(c) of such Act; Funds reserved under section 518(c) of such Act shall be available for grants only to Indian tribes, as defined in section 518(h) of such Act and former Indian reservations in Oklahoma (as determined by the Secretary of the Interior) and Native Villages as defined in Public Law 92–203; Provided further, That for fiscal year 2017, notwithstanding the limitation on amounts in section 518(c) of the Federal Water Pollution Control Act, up to a total of 2 percent of the funds appropriated, or \$30,000,000, whichever is greater, and notwithstanding the limitation on amounts in section 1452(i) of the Safe Drinking Water Act, up to a total of 2 percent of the funds appropriated, or \$20,000,000, whichever is greater, for State Revolving Funds under such Acts may be reserved by the Administrator for grants under section 518(c) and section 1452(i) of such Acts:

Provided further, That for fiscal year 2017, notwithstanding the amounts specified in section 205(c) of the Federal Water Pollution Control Act, up to 1.5 percent of the aggregate funds appropriated for the Clean Water State Revolving Fund program under the Act less any sums

reserved under section 518(c) of the Act, may be reserved by the Administrator for grants made under title II of the Federal Water Pollution Control Act for American Samoa, Guam, the Commonwealth of the Northern Marianas, and United States Virgin Islands:

Provided further, That for fiscal year 2017, notwithstanding the limitations on amounts specified in section 1452(j) of the Safe Drinking Water Act, up to 1.5 percent of the funds appropriated for the Drinking Water State Revolving Fund programs under the Safe Drinking Water Act may be reserved by the Administrator for grants made under section 1452(j) of the Safe Drinking Water Act:

Provided further, That no less than 10 percent but not more than 20 percent of the funds made available under this title to each State for Clean Water State Revolving Fund capitalization grants and not less than 20 percent but not more than 30 percent of the funds made available under this title to each State for Drinking Water State Revolving Fund capitalization grants shall be used by the State to provide additional subsidy to eligible recipients in the form of forgiveness of principal, negative interest loans, or grants (or any combination of these), and shall be so used by the State only where such funds are provided as initial financing for an eligible recipient or to buy, refinance, or restructure the debt obligations of eligible recipients only where such debt was incurred on or after the date of enactment of this Act;

(2) \$5,000,000 shall be for architectural, engineering, planning, design, construction and related activities in connection with the construction of high priority water and wastewater facilities in the area of the United States-Mexico Border, after consultation with the appropriate border commission; Provided, That no funds provided by this appropriations Act to address the water, wastewater and other critical infrastructure needs of the colonias in the United States along the United States-Mexico border shall be made available to a county or municipal government unless that government has established an enforceable local ordinance, or other zoning rule, which prevents in that jurisdiction the development or construction of any additional colonia areas, or the development within an existing colonia the construction of any new home, business, or other structure which lacks water, wastewater, or other necessary infrastructure;

(3) \$17,000,000 shall be for grants to the State of Alaska to address drinking water and wastewater infrastructure needs of rural and Alaska Native Villages: Provided, That of these funds: (A) the State of Alaska shall provide a match of 25 percent; (B) no more than 5 percent of the funds may be used for administrative and overhead expenses; and (C) the State of Alaska shall make awards consistent with the Statewide priority list established in conjunction with the Agency and the U.S. Department of Agriculture for all water, sewer, waste disposal, and similar projects carried out by the State of Alaska that are funded under section 221 of the Federal Water Pollution Control Act (33 U.S.C. 1301) or the Consolidated Farm and Rural Development Act (7 U.S.C. 1921 et seq.) which shall allocate not less than 25 percent of the funds provided for projects in regional hub communities;

(4) \$90,000,000 shall be to carry out section 104(k) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), including grants, interagency agreements, and associated program support costs:

Provided, That not more than 25 percent of the amount appropriated to carry out section 104(k) of CERCLA shall be used for site characterization, assessment, and remediation of facilities described in section 101(39)(D)(ii)(II) of CERCLA;

(5) \$10,000,000 shall be for grants under title VII, subtitle G of the Energy Policy Act of 2005;

(6) \$1,158,400,000 shall be for grants, including associated program support costs, to States, federally recognized tribes, interstate agencies, tribal consortia, and air pollution control agencies for multi-media or single media pollution prevention, control and abatement and related activities, including activities pursuant to the provisions set forth under this heading in Public Law 104-134, and for making grants under section 103 and 105 of the Clean Air Act for particulate matter monitoring and data collection activities subject to terms and conditions specified by the Administrator, of which: \$49,500,000 shall be for carrying out section 128 of CERCLA; \$25,346,000 shall be for Environmental Information Exchange Network grants, including associated program support costs; \$2,498,000 shall be for grants to States under section 2007 (f) (2) of the Solid Waste Disposal Act, which shall be in addition to funds appropriated under the heading “Leaking Underground Storage Tank Trust Fund Program” to carry out the provisions of the Solid Waste Disposal Act specified in section 9508(c) of the Internal Revenue Code other than section 9003(h) of the Solid Waste Disposal Act; \$18,500,000 of the funds available for grants under section 106 of the Water Pollution Control Act shall be for State participation in national- and State-level statistical surveys of water resources and enhancements to State monitoring programs. (Department of the Interior, Environment, and Related Agencies Appropriations Act, 2016.)

**Program Projects in STAG
(Dollars in Thousands)**

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
State and Tribal Assistance Grants (STAG)				
Infrastructure Assistance: Alaska Native Villages	\$9,821.9	\$20,000.0	\$17,000.0	(\$3,000.0)
Brownfields Projects	\$88,086.1	\$80,000.0	\$90,000.0	\$10,000.0
Infrastructure Assistance: Clean Water SRF	\$1,438,247.3	\$1,393,887.0	\$979,500.0	(\$414,387.0)
Infrastructure Assistance: Drinking Water SRF	\$907,052.9	\$863,233.0	\$1,020,500.0	\$157,267.0
Infrastructure Assistance: Mexico Border	\$7,232.1	\$10,000.0	\$5,000.0	(\$5,000.0)
Diesel Emissions Reduction Grant Program	\$36,139.1	\$50,000.0	\$10,000.0	(\$40,000.0)
Targeted Airshed Grants	\$0.0	\$20,000.0	\$0.0	(\$20,000.0)
Subtotal, State and Tribal Assistance Grants (STAG)	\$2,486,579.4	\$2,437,120.0	\$2,122,000.0	(\$315,120.0)
Categorical Grants				
Categorical Grant: Nonpoint Source (Sec. 319)	\$165,685.9	\$164,915.0	\$164,915.0	\$0.0

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Categorical Grant: Public Water System Supervision (PWSS)	\$102,021.2	\$101,963.0	\$109,700.0	\$7,737.0
Categorical Grant: State and Local Air Quality Management	\$231,120.5	\$228,219.0	\$268,229.0	\$40,010.0
Categorical Grant: Radon	\$8,266.7	\$8,051.0	\$0.0	(\$8,051.0)
Categorical Grant: Pollution Control (Sec. 106)				
Monitoring Grants	\$16,867.3	\$17,848.0	\$18,500.0	\$652.0
Categorical Grant: Pollution Control (Sec. 106) (other activities)	\$212,663.2	\$212,958.0	\$227,664.0	\$14,706.0
Subtotal, Categorical Grant: Pollution Control (Sec. 106)	\$229,530.5	\$230,806.0	\$246,164.0	\$15,358.0
Categorical Grant: Wetlands Program Development	\$16,713.2	\$14,661.0	\$17,661.0	\$3,000.0
Categorical Grant: Underground Injection Control (UIC)	\$11,130.5	\$10,506.0	\$10,506.0	\$0.0
Categorical Grant: Pesticides Program Implementation	\$12,747.8	\$12,701.0	\$13,201.0	\$500.0
Categorical Grant: Lead	\$14,184.9	\$14,049.0	\$14,049.0	\$0.0
Categorical Grant: Hazardous Waste Financial Assistance	\$101,311.3	\$99,693.0	\$99,693.0	\$0.0
Categorical Grant: Pesticides Enforcement	\$18,012.7	\$18,050.0	\$18,050.0	\$0.0
Categorical Grant: Pollution Prevention	\$4,471.0	\$4,765.0	\$4,765.0	\$0.0
Categorical Grant: Toxics Substances Compliance	\$4,817.4	\$4,919.0	\$4,919.0	\$0.0
Categorical Grant: Tribal General Assistance Program	\$66,416.6	\$65,476.0	\$96,375.0	\$30,899.0
Categorical Grant: Underground Storage Tanks	\$1,494.0	\$1,498.0	\$2,498.0	\$1,000.0
Categorical Grant: Tribal Air Quality Management	\$13,610.5	\$12,829.0	\$12,829.0	\$0.0
Categorical Grant: Environmental Information	\$12,170.9	\$9,646.0	\$25,346.0	\$15,700.0
Categorical Grant: Beaches Protection	\$9,868.1	\$9,549.0	\$0.0	(\$9,549.0)
Categorical Grant: Brownfields	\$48,202.5	\$47,745.0	\$49,500.0	\$1,755.0
Categorical Grant: Multipurpose Grants	\$0.0	\$21,000.0	\$0.0	(\$21,000.0)
Subtotal, Categorical Grants	\$1,071,776.2	\$1,081,041.0	\$1,158,400.0	\$77,359.0
Congressional Priorities				
Congressionally Mandated Projects	\$14,797.9	\$0.0	\$0.0	\$0.0
Subtotal, Congressionally Mandated Projects	\$14,797.9	\$0.0	\$0.0	\$0.0
TOTAL, EPA	\$3,573,153.5	\$3,518,161.0	\$3,280,400.0	(\$237,761.0)

Program Area: Categorical Grants

Categorical Grant: Beaches Protection

Program Area: Categorical Grants

Goal: Protecting America's Waters

Objective(s): Protect Human Health

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	<i>\$9,868.1</i>	<i>\$9,549.0</i>	<i>\$0.0</i>	<i>(\$9,549.0)</i>
Total Budget Authority / Obligations	\$9,868.1	\$9,549.0	\$0.0	(\$9,549.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The EPA's Beaches Protection program awarded grants to eligible coastal and Great Lakes states, territories, and tribes to monitor water quality at beaches and to notify the public, through beach advisories and closures, when water quality exceeds applicable standards. The Beach Grant Program was a collaborative effort between the EPA and states, territories, local governments, and tribes to help ensure that recreational waters are safe for swimming. Congress created the program with the passage of the Beaches Environmental Assessment and Coastal Health Act in October 2000 with the goal of reducing risk to the public of waterborne disease related to the use of recreational water.

FY 2017 Activities and Performance Plan:

The EPA is not requesting funds to support this grant program in FY 2017. The EPA proposes that this grant program be terminated at the end of FY 2016. While beach monitoring continues to be important to protect human health, states and local governments now have the technical expertise and procedures to continue beach monitoring without federal support, as a result of the significant technical guidance and financial support the Beach Program has provided.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$9,549.0) This reduction reflects the elimination of the Beach Grant Program. The agency is proposing to eliminate certain mature program activities that are well-established, well understood, and where there is the possibility of maintaining some of the human health benefits through implementation at the local level.

Statutory Authority:

Clean Water Act; Beach Act of 2000.

Categorical Grant: Brownfields

Program Area: Categorical Grants

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Promote Sustainable and Livable Communities

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	\$48,202.5	\$47,745.0	\$49,500.0	\$1,755.0
Total Budget Authority / Obligations	\$48,202.5	\$47,745.0	\$49,500.0	\$1,755.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Brownfields program awards grants and provides technical assistance to help states, tribes, and local communities clean up contaminated property. Brownfield sites are real property which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Brownfields redevelopment is a key to revitalizing downtown areas, neighborhoods, and rural communities, thereby increasing property values and creating jobs while at the same time addressing human health and environmental risks. Since its inception, the Brownfields program has fostered a unique, community-driven approach to reuse contaminated sites. The thousands of grants awarded by the program have led to a visible difference in communities across the country, where over 44,200 acres of idle land have been made ready for productive use and over 106,000 jobs and \$23.3 billion have been leveraged.

The Brownfields program works collaboratively with stakeholders to clean up, revitalize, and redevelop contaminated property. Stakeholders include states, tribes, local communities, and others involved in environmental revitalization and economic redevelopment. This program, as authorized under Section 128(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), supports the agency’s priority of making a visible difference in communities across the country by providing categorical grants, and working with state, Tribal, and local partners to plan, inventory, assess, safely cleanup, and reuse brownfields sites which are real property which may contain a hazardous substance, pollutant, or contaminant. Brownfields redevelopment is a key to revitalizing downtown areas, thereby increasing property values and creating jobs. In looking at census data, the EPA found that approximately 104 million people (roughly 33 percent of the U.S. population) live within 3 miles of a Brownfields site that received EPA funding, including 35 percent of all children in the U.S. under the age of five.¹

As further evidence of the success of this program, a 2015 study concluded that cleaning up brownfield properties leads to residential property value increases of 5 to 11.5 percent.² Preliminary analysis of the data near 48 brownfield sites shows that an estimated \$29 to \$73 million

¹ U.S. EPA, Office of Solid Waste and Emergency Response Estimate. Data collected includes: (1) site information as of the end of FY 2013 from ACRES; and (2) census data from the 2009-2013 American Community Survey (ACS).

² Haninger, Kevin, Lala Ma, and Christopher Timmins. 2015. “The Value of Brownfield Remediation” National Bureau of Economic Research Working Paper No.20296. Posted July 2014, Revised September 2015, <http://www.nber.org/papers/w20296.pdf>.

in additional tax revenue was generated for local governments in a single year after cleanup. This is 2 to 6 times more than the \$9.8 million the EPA contributed to the cleanup of those brownfields. Based on historical data provided by the Assessment Cleanup and Redevelopment Exchanges System (ACRES) database, \$1 of the EPA's Brownfields funding leverages between \$17 and \$18 in other public and private funding. Additionally, the EPA's research has shown that redeveloping a brownfields site rather than a greenfield site has significant environmental benefits, including reducing vehicle miles traveled and related emissions by 32 to 57 percent, and reducing stormwater runoff by an estimated 47 to 62 percent. Revitalizing these once productive properties helps communities by: removing blight; improving environmental conditions; providing public health benefits; satisfying the growing demand for land; helping to limit urban sprawl; fostering ecologic habitat enhancements; enabling economic development; and, maintaining or improving quality of life.

The Brownfields program is a successful model of working cooperatively with states, tribes, local governments, and sister agencies to help communities oversee, plan, assess, and cleanup brownfield properties. The program will continue to work with relevant governmental agencies to build new tools and strategies that enhance coordination to help communities prioritize sites for assessment, cleanup, and sustainable reuse.

This program allocates grants to states and tribes to establish core capabilities and enhance their brownfields response programs. State and Tribal response programs address contaminated brownfields sites that do not require federal action but need assessment and/or cleanup before they can be considered ready for reuse. States and tribes may use grant funding provided under this program in the following ways:

- Developing a public record;
- Creating an inventory of brownfields sites;
- Developing oversight and enforcement authorities, or other mechanisms and resources;
- Developing mechanisms and resources to provide meaningful opportunities for public participation;
- Developing mechanisms for approval of cleanup plans, and verification and certification that cleanup efforts are complete;
- Capitalizing a Revolving Loan Fund for brownfields-related work;
- Purchasing environmental insurance;
- Developing state and Tribal tracking and management systems for land use, institutional and engineering controls;
- Conducting public education and outreach efforts to ensure that Tribal communities are informed and able to participate in environmental decision-making; and,
- Conducting site-specific activities, such as assessments and cleanups at brownfields sites.³

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to award cooperative agreements establishing and enhancing eligible state, territorial, and Tribal response programs under CERCLA 128(a). In FY 2017, the

³ For more information, refer to: http://www.epa.gov/brownfields/state_tribal/index.html.

EPA will prioritize its efforts and focus additional outreach and support to small and rural communities regarding the Brownfields program and will expect state and Tribal recipients of 128(a) funds to do the same. The EPA will place renewed emphasis on building response program capacity of states and tribes to address the assessment and cleanup of sites with actual or perceived contamination that will increase the number of acres ready for reuse, an important first step toward environmental revitalization and economic redevelopment for communities across the country. Specifically, the state and Tribal response program grants will continue to place a greater emphasis on tracking institutional and engineering controls at brownfield sites to ensure that long-term stewardship activities continue to protect human health and the environment. The work of the Brownfields program contributes to the Agency Priority Goal to clean up contaminated sites to enhance the livability and economic vitality of communities.

Since 2003, the EPA has provided funding in at least one funding cycle to 172 states, tribes, and territories. In FY 2015, the EPA provided funding to 160 states, tribes, territories, and the District of Columbia. In FY 2017, the EPA will continue to allocate funding under this grant program in a way that ensures that core programmatic functions are funded for those Tribal and state response programs making meaningful progress in developing their programs rather than increasing capacity of well-established programs.

Performance Targets:

Work under this program supports performance results in the Brownfield Projects program under the State and Tribal Assistance Grants appropriation and the Brownfields Projects program under the Environmental Programs and Management appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$1,755.0) This program change reflects an increase to fund additional new Tribal grantees (estimated 5–10 at an average of \$150 thousand per Tribal cooperative agreement) and for existing state, Tribal, and territorial grantees to prioritize and target resources to meet the increasing demand for Brownfields work in small and rural communities.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Small Business Liability Relief and Brownfields Revitalization Act, § 128.

Categorical Grant: Lead

Program Area: Categorical Grants

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	\$14,184.9	\$14,049.0	\$14,049.0	\$0.0
Total Budget Authority / Obligations	\$14,184.9	\$14,049.0	\$14,049.0	\$0.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

Recent biomonitoring data show that significant progress has been made in the continuing effort to eliminate childhood lead poisoning as a public health concern. At the same time, studies have indicated that children’s health may be adversely affected even at extremely low blood levels.⁴ In response to this information and the fact that approximately 37 million homes in the U.S. still have lead-based paint,⁵ the EPA’s Lead Paint Program is working to reduce the number of children with blood lead levels of five micrograms per deciliter or higher. The Lead program also works to reduce the disparities in blood lead levels between low-income children and non-low-income children.⁶

The Lead program contributes to the goal of eliminating childhood lead poisoning by:

- Establishing a national pool of certified firms and individuals who are trained to carry out renovation and repair and painting projects while adhering to the lead-safe work practice standards and to minimize lead dust hazards created in the course of such projects;
- Establishing standards governing lead hazard identification and abatement practices and maintaining a national pool of professionals trained and certified to implement those standards; and
- Providing information and outreach to housing occupants and the public so they can make informed decisions and take actions about lead hazards in their homes.

⁴ U.S.EPA. Air Quality Criteria for Lead (September 29, 2006)

<http://cfpub.epa.gov/ncea/CFM/recorddisplay.cfm?deid=158823>.

Rogan WJ, Ware JH. Exposure to lead in children – how low is low enough? N Engl J Med.2003;348(16):1515-1516

<http://www.precaution.org/lib/rogan.nejm.20030417.pdf>.

Lanphear BP, Hornung R, Khoury J, et al. Low-level environmental lead exposure and children’s intellectual function: an international pooled analysis. Environ Health Perspect. 2005; 113(7):894-899

<http://www.pubmedcentral.nih.gov/articlerender.fcgi?doi=10.1289/ehp.7688>.

⁵ Jacobs, D.E.; Clickner, R.P.; Zhou, J.Y.; Viet, S.M.; Marker, D.A.; Rogers, J.W.; Zeldin, D.C.; Broene, P.; and Friedman, W. (2002). The Prevalence of Lead-based Paint Hazard in U.S. housing. Environmental Health Perspectives, 110(10): A599-A606

⁶ Centers for Disease Control and Prevention. Fourth Report on Human Exposure to Environmental Chemicals, Updated Tables, (September, 2012). Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. <http://www.cdc.gov/exposurereport/>

The Lead Categorical Grant Program contributes to the Lead program's goals by providing support to authorized state and Tribal programs that administer training and certification programs for lead professionals and renovation contractors. Please see <http://www.epa.gov/lead> for more information.

FY 2017 Activities and Performance Plan:

In FY 2017, the Lead Categorical Grants Program will continue providing assistance to states, territories, the District of Columbia and tribes to develop and implement authorized lead-based paint abatement programs and authorized Renovation, Repair and Painting (RRP) programs. The EPA directly implements these programs in all areas of the country that are not authorized to do so, and will continue to operate the Federal Lead-based Paint Program Database (FLPP) of trained and certified lead-based paint professionals. The program also conducts outreach activities to educate populations deemed most at risk of exposure to lead from lead-based paint, dust and soil.

Through December 1, 2015, thirty-nine states and territories, four tribes, the District of Columbia and Puerto Rico have been authorized to run the lead-based paint abatement program. In addition, fourteen states and one tribe are authorized to administer the RRP program. As of the same date, there were 408 accredited RRP providers and more than 100,000 certified renovation firms. In FY 2017, the Lead Categorical Grant Program will provide assistance to existing authorized state and Tribal lead programs. The EPA also will provide assistance, using a targeted approach, to states and tribes interested in becoming authorized to run the RRP program.

Performance Targets:

Work under this program supports performance results in the Toxic Substances: Lead Risk Reduction Program, under the EPM appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section. While there are no performance measures specific to this grants component of the Lead program, the direct implementation support provided by the grants component contribute significantly to the EPA's success in its performance measures targeting certification of Lead RRP firms and processing those certifications in a timely manner.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- No change in program funding.

Statutory Authority:

Toxic Substances Control Act (TSCA), §§ 401-412.

Categorical Grant: Environmental Information

Program Area: Categorical Grants

Goal: Provide agencywide support for multiple goals to achieve their objectives. This support involves agencywide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	\$12,170.9	\$9,646.0	\$25,346.0	\$15,700.0
Total Budget Authority / Obligations	\$12,170.9	\$9,646.0	\$25,346.0	\$15,700.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

Strengthening state, Tribal, and international partnerships is a priority for the EPA. Funds provided under this categorical grant support the Environmental Information Exchange Network (EN) which is a critical component of the agency's strategy. The EN is a standards-based, secure approach for the EPA and its state, Tribal and territorial partners to exchange and share environmental data over the Internet. Through its use of technology and data standards, open-source software, shared services and reusable tools and applications, the EN, in tandem with the agency's E-Enterprise efforts, offers its partners tremendous potential for managing, accessing, and analyzing environmental data more effectively and efficiently. E-Enterprise for the Environment is a transformative 21st century strategy – jointly governed by states and the EPA – for modernizing government agencies' delivery of environmental protection. As a part of E-Enterprise, it is a priority to further enhance portal compatibility and shared services provided by the Exchange Network. This will lead to improved decision making and reduced regulatory burden by making data more accessible, eliminating redundant data collection, resolving issues with data validation, streamlining processes, and avoiding development and operational costs for redundant IT systems and components.

EN grants provide funding to states, territories, federally recognized Indian tribes, and Tribal consortia to support their participation in the EN. These grants help EN partners acquire and develop the hardware and software needed to connect to the Network; use the EN to collect, report and access the data they need with greater efficiency; and integrate environmental data across programs. In collaboration with the EPA, the Environmental Council of the States (ECOS) agreed upon the EN as the standard approach for the EPA, state, tribe and territorial data sharing. The grant program has provided the funding to make this approach a reality.

The EPA plays a critical role in program planning, management and evaluation for the Exchange Network. Specifically, the EPA supports the Exchange Network and E-Enterprise governance which oversees strategic planning, administers the Network's grant program, issuing

approximately 40 grants annually and overseeing nearly 150 active grants, partners with tribes to expand Tribal participation in the Exchange Network and implements the Cross-Media Electronic Reporting Regulation (CROMERR). The EPA also conducts return on investment analyses on specific electronic data exchange projects in partnership with programs and Regional Offices.

FY 2017 Activities and Performance Plan:

In FY 2017, the agency's programs and activities will continue to align with the E-Enterprise business strategy, an integral part of the agency's focus on launching a new era of state, local, Tribal, and international partnerships. Under this strategy, the agency will streamline its business processes and systems to reduce reporting burden on states and regulated facilities, and improve the effectiveness and efficiency of regulatory programs for the EPA, states, and tribes.

In line with E-Enterprise principles, the EPA and states are replacing outdated paper reporting with integrated reporting capacity using advanced technology and shared IT services. Before those reporting systems are designed, the regulatory programs will undergo business process reviews. If needed, the programs will be streamlined and may eliminate redundant or obsolete data collection requirements, resulting in burden reduction for states and the regulated community as a result of streamlined reporting and better use of data. In FY 2017, the EPA intends to support a minimum of ten states and tribes to leverage centralized information technology services for electronically signing reports and provide other services that assist co-regulators with credible submissions from the regulated community. In addition, the EPA has the infrastructure in place to provide states and tribes with data quality services that include facility and substance look-ups and a tool to compare and correct their facility data. FY 2017 resources will be applied to support the standing up of services for EPA partners..

In FY 2017, integration and alignment with the E-Enterprise approach will continue to be a priority. The EPA and states are making progress on implementing the E-Enterprise business strategy within current resource levels; however, without additional funding benefits will not occur in a timely manner and within a coordinated approach. In FY 2017, the EPA plans to award EN grants to assist states, tribes, and territories to implement proposals that emphasize the following activities:

- **Data Access and Availability:** These activities create services and tools that make state or Tribal data available on demand to other partners. Providing data through Web services and application programming interfaces (APIs) helps facilitate the sharing of information with the public, with private sector entities, and among state, Tribal, and territorial agencies and the EPA. The development of an API and Web services approach, in collaboration with Exchange Network partners, advances the Network's Phase 2 goals of expanding access to environmental data and enhancing inter- and intra-partner data sharing. Emphasis will be placed on projects that develop Web services, APIs, and tools that support access, analysis and integration of environmental data. Grant activities may include mobile and desktop applications, executive and program dashboards and publishing environmental information to public sites.
- **New EPA Reporting Data Flows:** Grant projects will support developing and implementing new Exchange Network data flows that enable automated reporting to EPA systems. New

national data flows include Radon, Safe Drinking Water Information System (SDWIS) Prime, Electronic Notice of Intent (eNOI) to discharge, and Assessment TMDL Tracking & Implementation System (ATTAINS).

- **Partner Data Sharing:** These activities support the partners' ability to share cross-state, cross-Tribal or state-Tribal data, such as institutional controls at contamination sites, data on cleanup sites, and datasets of national significance to tribes (e.g., open dumps).
- **Virtual Exchange Services (VES) support for states, tribes and territories:** This program supports Exchange Network Partners transitioning from using individually-operated nodes to leveraging the EPA-hosted VES. Moving to VES supports the transition to a cloud-based network infrastructure, which provides a more cost-efficient way for EN partners to manage nodes, thereby decreasing development and operational costs (including licensing, server, and administration costs). This new cloud-based model provides a simplified and standardized development environment, creates greater economies of scale and reduces the administrative burden on partners.
- **Sharing Cross-Media Electronic Reporting Rule (CROMERR) services and components:** This supports state and Tribal adoption and implementation of a suite of Central Data Exchange (CDX) services that the EPA has centrally developed for CROMERR functions. Specific shared services include electronic signature for submissions from regulated entities, Copy of Record management and identity management within the registration process. States and tribes will use these services that are centrally hosted by the EPA, replacing individually developed system functions. The use of shared services will reduce the time to prepare and review applications and develop systems, and the cost to develop, operate, and maintain CROMERR-compliant e-reporting systems.
- **Integration with the E-Enterprise Portal:** The portal functions as a point of access to information and tools and may provide consolidated entry points for businesses and citizens to efficiently locate, obtain access to, and interact with relevant EPA, state, and Tribal environmental programs and Web resources.
- **Support for the Exchange Network program and E-Enterprise business strategy:** A cooperative agreement with ECOS under the associated program support cost authority (Public Law 113-76) will provide support for the Exchange Network and E-Enterprise. This includes direct support to both Exchange Network and E-Enterprise joint governance, each of which represents a cross-section of the EPA, state and Tribal organizations. The cooperative agreement assists state, Tribal and territorial organizations in fulfilling the missions of both programs by providing programmatic, policy, technical and administrative support; promoting information-sharing amongst state, Tribal, territorial, and federal partners; enhancing communication and outreach; and convening national user meetings.

The "National Environmental Information Exchange Network Grant Program Solicitation Notice" sets forth the process for awarding grant funding to states, tribes, and territories.⁷ It is an annual

⁷ Please see: <http://www.epa.gov/exchangenetwork/grants>.

guidance document that describes eligibility requirements, the process for application preparation and submission, evaluation criteria, award administration information, and post-award monitoring procedures.

Performance Targets:

Work under this program supports performance results in the Exchange Network program under the EPM appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$15,700.0) This program change reflects an increase in funds for states and tribes to build tools, services and capabilities that will enable greater exchange of data for delegated programs between states, tribes, regulated entities and the EPA following E-Enterprise principles. The EPA anticipates that these grants will allow a minimum of ten additional states and tribes to leverage centralized information technology services for electronically signing reports and provide other services that assist co-regulators with legal, compliant submissions.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA’s organic statute); Appropriation Acts: FY 2002 (Public Law 107-73), FY 2003 (Public Law 108-7), FY 2004 (Public Law 108-199), FY 2005 (Public Law 108-447), FY 2006 (Public Law 109-54), FY 2007 (Public Law 110-5), FY 2008 (Public Law 110-161), FY 2009 (Public Law 111-8), FY 2010 (Public Law 111-88), FY 2011 (Public Law 112-10), FY 2012 (Public Law 112-74), FY 2013 (Public Law 113-6), FY 2014 (Public Law 113-76); and FY 15 (Public Law 113-235).

Categorical Grant: Hazardous Waste Financial Assistance

Program Area: Categorical Grants

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Restore Land; Preserve Land

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	<i>\$101,311.3</i>	<i>\$99,693.0</i>	<i>\$99,693.0</i>	<i>\$0.0</i>
Total Budget Authority / Obligations	\$101,311.3	\$99,693.0	\$99,693.0	\$0.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

Under the Resource Conservation and Recovery Act (RCRA), the EPA successfully partners with state and local governments, as well as American businesses and non-governmental organizations, to significantly improve waste and material management practices. Through these programs, the EPA and the states protect human health and the environment by minimizing waste generation, preventing the release of millions of tons of hazardous wastes from hazardous waste generators and management facilities, and cleaning up land and water. Authorized states conduct most of the direct implementation of permitting, corrective action, and enforcement components of the RCRA hazardous waste management program.

The Hazardous Waste Financial Assistance Grants program applies to all 50 states and 6 territories. Currently, 48 states and 2 territories are authorized to implement the RCRA program with regulatory direction and oversight from the EPA. The agency provides funding assistance through grant programs and participates in work-sharing with states and tribes. When appropriate, these grants also are used to support tribes in conducting hazardous waste work in Indian Country. In addition, the EPA directly implements the RCRA program in the states of Iowa and Alaska.

Over 108 million people live within three miles of a RCRA corrective action site (roughly 35 percent of the U.S. population). While there is no single way to characterize communities located near the sites, this population is more minority, low income, linguistically isolated, and less likely to have a high school education than the U.S. population as a whole.⁸ As a result, these communities may have fewer resources with which to address concerns about their health and environment.

The cost to clean up sites under the RCRA program can vary widely, with some costing less than \$1 million, and others exceeding \$50 million. The length and complexity of the cleanups also vary and can take from a year to decades to fully remediate and return the site to productive use. The RCRA Corrective Action program works with the facility to address contamination during the operational life of the facility, thereby reducing the likelihood of the site becoming a brownfield or a Superfund site.

⁸ U.S. EPA, Office of Solid Waste and Emergency Response Estimate. Data collected includes: (1) site information as of the end of FY 2013 from RCRAInfo; and (2) census data from the 2007-2013 American Community Survey.

RCRA authorizes and directs the EPA to assist state programs through the Hazardous Waste Financial Assistance Grants program. These state grants provide resources for authorized states to implement the hazardous waste management program.

The Hazardous Waste Financial Assistance Grants program includes funding for the following:

- Issuing and renewing permits to hazardous waste treatment, storage and disposal (TSD) facilities that are part of the permitting universe of 6,600 facilities;
- Overseeing cleanups of releases at facilities that are among the 3,779 TSD and priority cleanups;
- Inspecting facilities;
- Taking appropriate enforcement actions; and
- Maintaining data, support systems, and authorized regulations, for implementing these programs.

Hazardous Waste Financial Assistance Grants help the states fulfill their obligations under RCRA to provide a minimum level of matching funds - one state dollar for every three federal grant dollars. This requirement leverages state funding which is essential for state implementation in fulfilling the intent of the comprehensive framework of regulations the EPA has issued under RCRA to assure safe management of solid and hazardous waste.⁹ The EPA acknowledges that many states go beyond the minimum one-to-three match and provide an “overmatch” to help fund additional essential program work. In fact, the EPA grant funds are approximately half of the total resources available in many state program budgets.¹⁰

The RCRA permitting program provides financial assistance for states to develop and implement permits that minimize hazardous waste generation, prevent the release of hazardous constituents from hazardous waste management facilities, and provide for safe waste management. These actions prevent future contamination and protect the health of millions of Americans who live within one mile of a hazardous waste management facility. Data from the U.S. Bureau of Labor Statistics show an increasing trend in the number of jobs in the waste management and remediation services industry with a 19.2 percent increase from January 2001 to December 2012.¹¹

Resources will be used to issue facility-specific initial permits and review and improve permits when they are modified or renewed. The national RCRA program provides leadership for meeting our legal obligation to the following:

- Reassess land disposal permits every five years;
- Renew all permits at least every ten years;
- Maintain permits by modifying them to address changes in operations; and

⁹ For matching fund requirements, see 40 C.F.R. § 35.215 for states and 40 C.F.R. § 35.725 for tribes.

¹⁰ State RCRA Subtitle C Core Hazardous Waste Management Program Implementation Costs - Final Report (Association of State and Territorial Solid Waste Management Officials, January 2007)
http://astswmo.org/files/policies/Hazardous_Waste/Final%20Report%20-%20RCRA%20Subtitle%20C%20Core%20Project.pdf.

¹¹ Data extracted from the U.S. Bureau of Labor Statistics, February 2013. As of March 2013, BLS no longer measures employment data on any “green” jobs, due to sequester budget cuts <http://stats.bls.gov/ggsocc/>.

- Monitor facility performance to ensure that permits continue to protect people and ecosystems from harmful exposures to hazardous pollutants.

It is a continuing challenge to process modification requests or renewal applications in a timely manner so that permittees who seek changes to their facility design or operations (e.g., to take advantage of improvements in technology or shifts in waste streams being managed), are not delayed in effecting such changes. Timely permit actions benefit industry by enabling them to implement state-of-the-art design and management practices that improve the efficiency and effectiveness of their operations, and to respond to economic opportunity by making timely product changes.

These grant resources also assist states in ensuring the safe cleanup of past and continuing releases through the RCRA corrective action program. The EPA and states focus their corrective action resources on 3,779 hazardous waste facilities. These facilities include some of the most highly contaminated, technically challenging, and potentially threatening sites the EPA and states confront in any of their cleanup programs.¹²

The agency and states will use site investigations to identify threats; establish interim remedies to reduce and eliminate exposure; and select and construct safe, effective long-term remedies that maintain the viability of the operating facility. The EPA and states continue to grapple with hundreds of very large, highly contaminated sites and many small but equally contaminated sites.

FY 2017 Activities and Performance Plan:

State work is crucial to meeting key program goals, and state commitments toward the national goals are negotiated into state grant agreements. The agency has authorized 44 states and one territory to directly implement the RCRA corrective action program at the majority of the sites with leadership and support from the EPA. In FY 2017, the agency and states continue to face a significant workload to implement protective cleanups for our nation's most significant operational cleanup sites.

To improve the accountability, transparency, and effectiveness of RCRA cleanup program, the agency used the Lean¹³ process to identify and eliminate inefficiencies. The agency developed tools to increase efficiencies and provided them to the states. Improvements related to better planning, reduced review time frames, reductions in rework, and better conflict resolution will help preserve resources and allow state programs to more effectively focus resources on critical facilities, accelerate cleanups, and put properties back into safe and productive use. The Lean participants estimated the efficiencies identified and associated implementation tools could significantly reduce the investigation timeframes by about 74 percent. The benefits of streamlining are leading to faster cleanups (e.g., reduced time frames for facility investigations lead to faster remedy response and prevention of exposures) in both authorized and unauthorized states. In FY 2017, the agency will be evaluating the successes of the Lean on the corrective action program and

¹² The EPA tracks corrective action obligations for RCRA-permitted facilities. There are additional non-permitted facilities that may have corrective action obligations not tracked by the EPA; these facilities are typically small sites. The EPA recognizes that the total universe of such facilities or sites "subject to" corrective action universe is between five and six thousand facilities or sites, and is evaluating this universe to determine if cleanup work is needed.

¹³ Principles of Lean. The Lean Enterprise Institute, Inc. <http://www.lean.org/WhatsLean/Principles.cfm>.

working to identify any additional portions of the cleanup process that would benefit from a Lean analysis.

The RCRA permitting program faces a significant workload to ensure controls remain protective. In FY 2017, the EPA and authorized states will oversee and manage RCRA permits for approximately 20,000 hazardous waste units at 6,600 facilities in the permitting universe. Due to declining state resources, the EPA has received an increasing number of requests from authorized states for direct implementation support, such as taking over the cleanup work at specific RCRA corrective action sites within a state or doing the risk assessments for state permits. The number of requests for direct implementation support varies among the states and regions.

States will continue to work to meet the FY 2017 target of implementing permits, initial approved controls, and updated controls at 115 RCRA hazardous waste management facilities. Based on current levels of state funding, the EPA expects that the current permit backlog will remain reasonably constant in the foreseeable future since the new workload added each year is almost the same as the annual accomplishments. On average every year, for every new permit issued, there are 141 permit renewals and modifications approved. Additionally, permit modifications outnumber permit renewals 7 to 1, with 17 percent of permit modifications requiring “substantial” changes on par with initial permit issuance with regard to complexity, workload, and public participation requirements.¹⁴ Maintaining permits and processing permit modifications are critical in order to enable improved business operations while maintaining protection of the environment. In FY 2017, the EPA will focus on improving tracking of permit modifications across the nation so as to understand the efficiency and effectiveness of the permit modification process.

An important objective in FY 2017 is ensuring owners and operators of hazardous waste management facilities and reclamation facilities demonstrate that they have financial mechanisms in place to cover the full costs of closure, post-closure, and clean-up activities. The EPA understands that states that have been able to closely review initial cost estimates have found them to be insufficient to cover the up-to-date costs of closure and post-closure. Verifying the adequacy of cost estimates and financial assurance documentation requires specialized knowledge and experience, and is a key activity that protects taxpayer dollars by ensuring that money will be available to properly close, clean up, and monitor the site if, for example, the facility is abandoned or the owner goes bankrupt. Continued focus in this area can avoid the risk of sites having to be addressed by the Superfund program or other cleanup programs.

In FY 2017, the EPA will continue a multi-year implementation transition to an updated approach for distributing Hazardous Waste Financial Assistance Grants to the states that began in FY 2015. The new approach, which replaces methodology first instituted in FY 1996, will better align cooperative agreement funding to state needs, and maximize the environmental benefits and program performance of this funding. The EPA worked in consultation with the states during the development of the new approach and has informed Congressional appropriators of the new allocation methodology. In FY 2017, the EPA will implement the new methodology and grant allocations.

¹⁴ U.S. EPA, “*Permit Modifications: Safeguarding the Environment in the Face of Changing Business Needs.*” (EPA Publication No. EPA 530-R-15-001). Washington, DC. (2015)

Performance Targets:

Work under this program supports performance results in the RCRA Waste Management and RCRA Corrective Action programs, under the EPM appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- No change in program funding.

Statutory Authority:

Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, § 3011.

Categorical Grant: Multipurpose Grants

Program Area: Categorical Grants

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Improve Air Quality

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	<i>\$0.0</i>	<i>\$21,000.0</i>	<i>\$0.0</i>	<i>(\$21,000.0)</i>
Total Budget Authority / Obligations	\$0.0	\$21,000.0	\$0.0	(\$21,000.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

In FY 2016, this program will provide \$21 million for grants to States and tribes to assist with the implementation of environmental programs. This program will assist States and tribes as they implement high priority activities which complement programs under established environmental statutes. The Goal and Objective assignment is provisional as the EPA develops the approach to award grants to States and tribes.

FY 2017 Activities and Performance Plan:

There is no request for this program in FY 2017.

Performance Targets:

Currently, there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$21,000.0) This program change reflects that the EPA is not requesting funds to support this program in FY 2017.

Statutory Authority:

P-L. 114-113.

Categorical Grant: Nonpoint Source (Sec. 319)

Program Area: Categorical Grants

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	\$165,685.9	\$164,915.0	\$164,915.0	\$0.0
Total Budget Authority / Obligations	\$165,685.9	\$164,915.0	\$164,915.0	\$0.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

Section 319 of the Clean Water Act (CWA) broadly authorizes states, territories, and tribes to use a range of tools to implement their Nonpoint Source Programs, including: regulatory and non-regulatory programs, technical assistance, financial assistance, education, training, technology transfers, and demonstration projects.¹⁵ Grants under Section 319 are provided to states, territories, and tribes to help them implement their EPA approved Nonpoint Source Management Programs by remediating past nonpoint source pollution and preventing or minimizing new nonpoint source pollution. Implementation of watershed-based plans helps states achieve load reductions contained in Total Maximum Daily Loads to achieve water quality standards. As of FY 2015, these implementation projects have allowed states to remediate over 600 waterbodies that were primarily impaired by nonpoint source pollution so that they now meet water quality standards. The Section 319 Program and Grant Guidelines and other program documents are now in place to enhance program accountability and performance. The EPA continues to oversee implementation of these program enhancements and to provide technical assistance to support state and tribal nonpoint source programs. To further accelerate the reduction of nonpoint source pollution, the EPA and the U.S. Department of Agriculture (USDA) continue to enhance coordination to achieve improvements in water quality by targeting resources and helping landowners implement voluntary stewardship practices in 184 small watersheds nationwide.

Nonpoint source pollution, caused by runoff that carries excess nutrients, toxics, and other contaminants to waterbodies, is the greatest remaining threat to surface and groundwater quality impairments in the United States. As of November 2015, there are approximately 43,000 waterbodies listed as impaired.¹⁶ Nonpoint sources are the primary cause of impairment in over 75 percent of these impaired waters and nonpoint sources figure significantly in all but ten percent of the other waterbody impairments.

FY 2017 Activities and Performance Plan:

The pervasiveness and widely distributed nature of nonpoint source pollution requires cooperation and involvement from a wide range of stakeholders to address it, including the EPA, other federal

¹⁵ For more information see: <https://www.cfda.gov>.

¹⁶ For more information see: http://ofmpub.epa.gov/tmdl_waters10/attains_nation_cy.control?p_report_type=T.

agencies, the states, local governments, nonprofit organizations, conservation districts, and private landowners. The EPA will work closely with and support the many efforts of states, interstate agencies, tribes, local governments and communities, watershed groups, the USDA and other federal agencies, and others to develop and implement programs and local watershed projects to restore surface water and groundwater nationwide. The EPA provides grant funds to states and tribes under the CWA Section 319 to implement comprehensive programs to control nonpoint pollution, including reduction of nitrogen, phosphorus, and sediment loadings. In 2014 there were an additional 11.3 million pounds of nitrogen, 2.7 million pounds of phosphorus, and 1.7 million tons of sediment reduced from nonpoint sources.

In FY 2017, the program will continue to work with states to strengthen and enhance their nonpoint source programs with a continued focus on watershed project implementation and maintaining current Nonpoint Source Management Programs to focus priorities funded through Section 319. We also will work to better document progress through enhanced program measures and a new Section 319 Program highlights report. The Nonpoint Source program will work closely with the 303(d) program to encourage coordination and integration of state 303(d) Vision priorities and nonpoint source program priorities and implementation. The EPA will continue a strong focus on the development and implementation of watershed-based plans to restore impaired waterbodies to meet water quality standards, as well as to protect unimpaired waters. It has been demonstrated repeatedly that achieving water quality results requires targeting, with the right practices, the primary sources of NPS pollution in a watershed. Watershed-based plans enable this by providing an analysis of sources and relative significance of pollutants of concern; identification of cost-effective techniques to address those sources; availability of needed resources, authorities, and community involvement to affect change; along with monitoring to enable states and local communities to track progress and make changes over time to meet their water quality goals.

The EPA will continue to forge and strengthen strategic partnerships with other federal agency programs, in particular the USDA Natural Resources Conservation Service (NRCS), which implements Farm Bill conservation programs that can help control nonpoint source pollution. Agricultural sources of pollution in the form of animal waste, fertilizer, and sediments have a particularly profound effect on water quality. In FY 2017, the EPA will continue the National Water Quality Initiative partnership with USDA to focus federal resources on agricultural sources of pollution in select watersheds in every state. In FY 2017, the EPA will work with states to provide annual updates of interim progress metrics in all watersheds and will report on instream monitoring being conducted in at least 50 focus watersheds to assess water quality progress from implemented conservation practices.

To address urban and suburban sources of nonpoint source pollution, the EPA will continue to work closely with a broad set of partners to promote the implementation of low-impact development practices (also called green infrastructure). Low-impact development practices, such as rain gardens and permeable pavement, reduce harm to water quality by reducing peak flows during storms, filtering pollutants, and recharging groundwater. Low-impact development practices also may help reduce flood damages. Working with states, cities, developers, watershed associations, and federal agencies such as the Department of Homeland Security's Federal Emergency Management Agency (FEMA) with an interest in flood protection and floodplain

management, the EPA will continue to spread knowledge and adoption of low-impact development practices.

The EPA had a FY 2014-2015 Agency Priority Goal that tracked the revision of state Nonpoint Source Management Program Plans reflecting the important role the plans have in driving programs. The update of state Nonpoint Source Management Programs is important for the setting of state priorities and strategic targeting of Section 319 funds towards the most pressing nonpoint source problems. An up-to-date state Nonpoint Source Management Program is the roadmap that drives strategic implementation activities to control and prevent pollution for a state's entire Nonpoint Source Program. All of the states and Washington, DC met the EPA's priority goal for updated Nonpoint Source Management Programs by the deadline of September 30, 2015.¹⁷

Performance Targets:

Measure	(bpf) Estimated annual reduction in millions of pounds of phosphorus from nonpoint sources to water bodies (Section 319 funded projects only).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	Pounds (Million)
Actual	2.6	4.8	4.4	3.5	2.7	Data Avail 3/2016			

Measure	(bpg) Estimated additional reduction in million pounds of nitrogen from nonpoint sources to water bodies (Section 319 funded projects only).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	8.5	8.5	8.5	9.1	9.1	9.1	9.1	9.1	Pounds (Million)
Actual	9.8	12.8	9	10.4	11.3	Data Avail 3/2016			

Measure	(bph) Estimated additional reduction in thousands of tons of sediment from nonpoint sources to water bodies (Section 319 funded projects only).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	700	700	700	1,100	1,200	1,200	1,200	1,200	Tons (Thousand)
Actual	2,100	2,007	1,100	1,169	1,674	Data Avail 3/2016			

The EPA provides grant funds to states and tribes under CWA Section 319 to implement comprehensive programs to control nonpoint pollution, including reduction in runoff of nitrogen, phosphorus, and sediment. The EPA monitors progress in reducing loadings of these key pollutants.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- No change in program funding.

¹⁷ For more information see: <http://www.performance.gov/content/improve-restore-and-maintain-water-quality-enhancing-nonpoint-source-program-leveraging?view=public#overview>.

Statutory Authority:

Clean Water Act, § 319.

Categorical Grant: Pesticides Enforcement

Program Area: Categorical Grants

Goal: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

Objective(s): Enforce Environmental Laws to Achieve Compliance

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	<i>\$18,012.7</i>	<i>\$18,050.0</i>	<i>\$18,050.0</i>	<i>\$0.0</i>
Total Budget Authority / Obligations	\$18,012.7	\$18,050.0	\$18,050.0	\$0.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Pesticides Compliance Monitoring and Enforcement Cooperative Agreement program supports pesticide product and user compliance with provisions of the Federal Insecticide, Fungicide, and Rodenticide Act through cooperative agreements¹⁸ with states and tribes. Areas of focus include:

- Inspections and enforcement to reduce chemical risks and protect vulnerable populations;
- Compliance assistance to the regulated community to foster knowledge of and compliance with environmental laws pertaining to pesticides; and
- Training for state and Tribal inspectors through the Pesticide Inspector Residential Training program and for state and Tribal managers through the Pesticide Regulatory Education program.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to award state and Tribal pesticides cooperative agreements to assist in the implementation of the compliance monitoring and enforcement provisions of the Federal Insecticide, Fungicide, and Rodenticide Act. The EPA provides grants to 56 states and territories, and 17 Tribal grants encompassing 31 tribes.

These cooperative agreements support state and Tribal compliance and enforcement activities designed to protect the public and the environment from harmful chemicals and pesticides. Enforcement and pesticides program cooperative agreement guidance is issued to focus regional, state and Tribal efforts on the highest priorities. The EPA’s support to state and Tribal pesticide programs¹⁹ emphasizes reducing chemical risks by ensuring compliance with:

¹⁸ For additional information, refer to: <http://www2.epa.gov/compliance/federal-insecticide-fungicide-and-rodenticide-act-state-and-tribal-assistance-grant>.

¹⁹ For additional information, refer to: <http://www2.epa.gov/pesticide-advisory-committees-and-regulatory-partners/tribal-pesticide-programs>.

- Worker protection standards;
- Pesticide applicator certification and training requirements;
- Requirements for management of pesticide containers;
- Soil fumigation label requirements; and
- Pesticide use requirements designed to protect water quality.

Performance Targets:

Work under this program supports the strategic objective Enforce Environmental Laws. Currently there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- No change in program funding.

Statutory Authority:

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

Categorical Grant: Pesticides Program Implementation

Program Area: Categorical Grants

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Ensure Chemical Safety

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	\$12,747.8	\$12,701.0	\$13,201.0	\$500.0
Total Budget Authority / Obligations	\$12,747.8	\$12,701.0	\$13,201.0	\$500.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The EPA's mission, as related to pesticides, is to protect human health and the environment from pesticide risk and to realize the value of pesticide availability by considering the economic, social, and environmental costs and benefits of the use of pesticides.²⁰ The agency provides grants to states, tribes and other partners, including universities, non-profit organizations, other federal agencies, pesticide users, environmental groups, and other entities, as necessary, to assist in strengthening and implementing the EPA's pesticide programs. This STAG program focuses on areas such as worker safety activities (including worker protection and certification and training of pesticide applicators), protection of endangered species,²¹ protection of water resources from pesticides, protection of pollinators, and promotion of environmental stewardship and [Integrated Pest Management](#) related activities. These agency activities are achieved through implementation of EPA statutes and regulatory actions.

Pesticide program implementation grants ensure that pesticide regulatory decisions made at the national level are translated into results at the local level. The EPA provides resources for those closest to the source of potential risks from pesticides, since they are in a position to better evaluate risks and implement risk reduction measures. Stakeholders at the local level, including states and tribes, provide essential support for pesticide programs. The agency engages stakeholders, including states and tribes, in the regulatory process and considers their input regarding effectiveness and soundness of regulatory decisions. The states and tribes also develop data to measure program performance. Under the pesticide statutes, responsibility for ensuring proper pesticide use is in large part delegated to states and tribes. Grant resources allow states and tribes to be more effective regulatory partners.

The EPA will support implementation of Tribal pesticide programs through grants. Tribal program outreach activities support Tribal capacity to protect human health by reducing risks from pesticides in Indian country. This task is challenging given that certain aspects of Native

²⁰ Federal Insecticide, Fungicide and Rodenticide Act, as amended January 23, 2004. Section 3(a), Requirement of Registration (7 U.S.C. 136a). Available online at <http://www.epa.gov/opp00001/regulating/laws.htm>.

²¹ The Endangered Species Act of 1973 sections 7(a)1 and 7 (a)2; Federal Agency Actions and Consultations, as amended (16 U.S.C. 1536(a)). Available at U.S. Fish and Wildlife Service, Endangered Species Act of 1973 internet site: <http://www.fws.gov/endangered/laws-policies/section-7.html>.

Americans' lifestyles, such as subsistence fishing or consumption of plants that were not grown as food and possibly exposed to pesticides not intended for food use, may increase exposure to some chemicals or create unique chemical exposure scenarios. For additional information, please see <http://www.epa.gov/pesticide-advisory-committees-and-regulatory-partners/tribal-pesticide-programs>.

The agency also will continue to fund a multi-year grant in support of the State Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Issues Research and Evaluation Group, which provides common services to states and ensures the close coordination of states and the EPA on pesticide issues.

FY 2017 Activities and Performance Plan:

Worker Protection Standard and Certification and Training Program

Through the Certification and Training Program and the Worker Protection Standard, the EPA protects workers, pesticide applicators and handlers, employers, and the public from the potential risks posed by pesticides in their work environments. In FY 2017, the EPA will continue to provide assistance and grants to implement the Certification and Training Program and Worker Protection Standard, and to address changes to the federal regulations for these programs. In FY 2017, states, territories and tribes will review and respond to the proposed changes to the Certification and Training regulations and begin to assess what changes to their certification programs may be needed when the changes to the Certification and Training rule are finalized. For worker protection, the states, territories and tribes also will train their program and inspection staff on the final revisions to the Worker Protection Standard, conduct outreach and training programs, and plan for inspections under the new rule. See <http://www.epa.gov/pesticide-worker-safety/how-epa-protects-workers-pesticide-risk> for more information.

Endangered Species Protection Program

The Endangered Species Protection Program (ESPP) protects federally listed, threatened or endangered animals and plants whose populations are threatened by risks associated with pesticide use.²² The EPA complies with Endangered Species Act (ESA) requirements to ensure that its regulatory decisions will not likely jeopardize the continued existence of species listed as endangered and threatened, or destroy or adversely modify habitat designated as critical to those species' survival. The EPA will provide grants to states, tribes, and other partners, as described above, for projects supporting endangered species protection. Program implementation includes outreach, communication, education related to use limitations, review and distribution of endangered species protection bulletins, and mapping and development of endangered species protection plans. These activities support the agency's mission to protect the environment from pesticide risk.

Protection of Water Sources from Pesticide Exposure

Protecting the nation's water sources from possible pesticide contamination is another component of the EPA's environmental protection efforts. The EPA provides funding, through cooperative agreements, to states, tribes, and other partners to investigate and respond to water resource contamination by pesticides. Stakeholders and partners, including states and tribes, are expected

²² <http://www.epa.gov/oppfead1/endanger/species-info.htm>.

to evaluate local pesticide uses that have the potential to contaminate water resources and take steps to prevent or reduce contamination where pesticide concentrations approach or exceed levels of concern.

Integrated Pest Management

Within available resources, the EPA will continue to support risk reduction by providing assistance to promote the use of safer alternatives to traditional chemical pest control methods including Integrated Pest Management (IPM) techniques.²³ The EPA supports the development and evaluation of new pest management technologies that contribute to reducing both health and environmental risks from pesticide use.

Pollinator Health

The EPA will continue to work with state and Tribal agencies to promote the development of locally-based plans to help improve pollinator health. State pollinator protection plans in place in several states have been an effective communication and collaboration mechanism between stakeholders at the local level that can lead to reduced pesticide exposure and protection of honey bees, while maintaining the flexibility needed by growers. The EPA believes that these plans, developed through a robust stakeholder engagement process at the local level, serve as good models for enhanced local communication and also can help accomplish the EPA's overall goal of mitigating exposure of bees to acutely toxic pesticides.

Performance Targets:

Work under this program supports performance results in the Pesticides: Protect Human Health from Pesticide Risk program; the Pesticides: Protect the Environment from Pesticide Risk program; and the Pesticides: Realize the Value of Pesticide Availability program under the EPM appropriation. These measures can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$500.0) This program change reflects an increase in funding available to states to draft pollinator protection plans.

Statutory Authority:

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Federal Food, Drug and Cosmetic Act (FFDCA); Food Quality Protection Act (FQPA) of 1996; Endangered Species Act (ESA).

²³ For additional information, see <http://www.epa.gov/pest/>.

Categorical Grant: Pollution Control (Sec. 106)

Program Area: Categorical Grants

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	<i>\$229,530.5</i>	<i>\$230,806.0</i>	<i>\$246,164.0</i>	<i>\$15,358.0</i>
Total Budget Authority / Obligations	\$229,530.5	\$230,806.0	\$246,164.0	\$15,358.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

Section 106 of the Clean Water Act authorizes the EPA to provide federal assistance to states (including territories and the District of Columbia), tribes qualified under Clean Water Act Section 518(e), and interstate agencies to establish and maintain adequate programs for the prevention and control of surface and groundwater pollution from point and nonpoint sources. Prevention and control activities supported through these grants include providing permits, ambient water quality monitoring and assessment, water quality standards development, Total Maximum Daily Load (TMDL) development, surveillance and enforcement, water quality planning, advice and assistance to local agencies, training, and public information. Section 106 grants also may be used to provide “in-kind” support through an EPA contract, if requested by a state or tribe.

In FY 2017, the EPA will continue to foster a “watershed approach” as the guiding principle of the clean water programs. As part of this approach, states, tribes, monitoring agencies, and the EPA conduct and assess monitoring efforts, develop TMDLs, and develop and enforce NPDES permits with the goal of sustaining and improving the entire watershed.

FY 2017 Activities and Performance Plan:

The Section 106 Grant Program supports prevention and control measures that improve water quality. In FY 2017, the agency is requesting an additional approximately \$15.4 million in Section 106 funding for states and tribes to implement water pollution control programs and support state and tribal nutrient management efforts. The EPA will continue to work in partnership with states and tribes to address nitrogen and phosphorus pollution through the use of a Framework for State Nutrient Reductions (Framework) provided in the EPA guidance issued in March 2011.²⁴ Nitrogen and phosphorus pollution has the potential to become one of the costliest and most challenging environmental problems, such as harmful algal blooms (HABs). HABs often result from high levels of nutrients and have caused significant economic losses to the fishing and recreation industries, while increasing costs for managing and treating potable water supplies. The nutrient reduction activities outlined in the Framework will work in conjunction with those being carried

²⁴ The eight key principles are identified in the March 16, 2011, memorandum “Working in Partnership with States to Address Phosphorus and Nitrogen Pollution through the Use of a Framework for State Nutrient Reductions (Framework)”.

out by states and tribes using Section 319 and U.S. Department of Agriculture funding and focus on a set of key principles that guide the agency's technical assistance and collaboration with the states.

Monitoring and Assessment:

The EPA is working to achieve greater integration of national, regional, state, and local level monitoring efforts, to connect monitoring and assessment activities, and to develop data that can serve multiple Clean Water Act programs in a cost-efficient and effective manner. Continued funding will ensure that scientifically defensible monitoring data are available to address issues and problems at state, national, regional and local levels.

In FY 2017, the EPA will continue working with states and tribes to enhance their water quality monitoring programs. Monitoring Initiative funds for states and tribes will continue to support the statistically valid National Aquatic Resource Surveys of national and regional water conditions and implementation of state and Tribal monitoring strategies. In FY 2017, the Monitoring Initiative will be funded at \$18.5 million and will be designated for states and tribes under the Initiative: \$8.5 million for monitoring as part of statistically valid reports on the national water condition, and \$10 million to implement program improvements per state monitoring strategies. Through the Monitoring and Assessment Partnership, the EPA will work with states to develop and apply innovative and efficient monitoring tools and techniques to optimize availability of high-quality data to support Clean Water Act program needs. The Partnership also will expand the use of monitoring data and geo-spatial tools for water resource protection to set priorities and evaluate effectiveness of water protection. This will allow for continued reporting on the condition of the nation's water and make significant progress toward assessing trends in water condition in a scientifically defensible manner.

The EPA, states, and tribes will collaborate to mobilize field sampling for the National Lakes Assessment 2017 as part of the national surveys. In FY 2017, the EPA and states will finalize the National Rivers and Streams Assessment 2013/2014. The EPA and states will complete data analysis for incorporation into the draft 2015 National Coastal Condition Assessment. The EPA and states will complete lab analysis of samples collected for the National Wetland Condition Assessment 2016 and begin assessing data for the next report. In FY 2017, the EPA/State Steering Committee for the National Rivers and Streams Assessment will be planning the next survey targeted to be in the field in calendar year 2018.

Review and Update Water Quality Standards:

States and authorized tribes will continue to review and update their water quality standards as required by the Clean Water Act and the EPA regulation at 40 CFR part 131. In 2015, the EPA revised several parts of this regulation. The EPA's expectation is that, where a new or revised requirement in the regulation necessitates a change to standards, such revisions will occur within the next triennial review that the state or tribe initiates. Among other changes, the regulation places a new focus on states and tribes reviewing and revising the water quality criteria in their standards to reflect the latest science as the EPA publishes new or updated recommendations. The EPA's goal for FY 2017 is that 73.2 percent of states and territories will have updated their standards within the past three years to reflect the latest scientific information. Additionally, the EPA continues to place a high priority on state adoption of numeric water quality criteria for nitrogen

and phosphorus as part of a partnership with states to address these pollutants. Finally, the EPA will continue to work with tribes that want to establish water quality standards.

Develop Total Maximum Daily Loads:

Development and implementation of TMDLs for Clean Water Act 303(d) listed impaired waterbodies is a critical tool for meeting water quality restoration goals. TMDLs focus on clearly defined environmental goals and establish a pollutant budget, which is then implemented via permit requirements and through local, state, and federal watershed plans and programs. In FY 2017, the Clean Water Act 303(d) Listing and TMDL Program will continue to engage with states to implement the 10-year vision for the program.²⁵ As part of this effort, the EPA will encourage states to: continue to engage with the public and stakeholders on their priorities, and identify opportunities to integrate Clean Water Act 303(d) Program priorities with other water quality programs (i.e., state water quality standards, monitoring, Section 319, NPDES, source water protection, and conservation programs) to achieve overall water quality goals and complete TMDLs. The EPA will work with states and other partners to develop and implement activities and watershed plans to restore these waters. Also, the EPA will continue to work with states to facilitate accurate, comprehensive, and geo-referenced water quality data made available to the public via the Assessment Total Maximum Daily Load Tracking and Implementation System. States and the EPA have made significant progress in the development and approval of TMDLs. In addition, the EPA and states will continue to implement a new performance measure that looks more comprehensively at the 303(d) program by measuring the extent of state priorities addressed by TMDLs, alternative restoration plans, or protection plans.

Issue Permits:

The NPDES program requires point source dischargers to be permitted and pretreatment programs to control discharges from industrial and other facilities to the nation's wastewater treatment plants. To address evolving water quality challenges and the large permit universe, the EPA will continue to work with the states to incorporate appropriately focused permitting practices and modernized data management. The EPA will work with states to balance competing priorities, identify opportunities to enhance the integrity and effectiveness of NPDES permits, start schedules for action items based on the significance of the action, and to map out program revisions. The EPA will encourage the states to seek opportunities to incorporate efficiency tools such as watershed permitting and trading.

As updates are made to the NPDES regulations and program requirements, the EPA continues to work with states to incorporate new requirements into their regulations. For example, the EPA will continue to work with states as they implement the revised regulations for cooling water intake structures for existing facilities, and the revised national technology-based standards for discharges from steam electric power plants. Permits for power plants are a large category of backlogged permits (i.e., administratively continued for 180 days or more). The EPA expects states to expeditiously re-issue these permits with conditions that implement the new rules. The EPA also will work with states to implement the Municipal Separate Storm Sewer Systems (MS4) General Permit Remand Rule, once it is finalized. Additionally, the EPA will work with states to implement

²⁵ For more information see: <http://www.epa.gov/tmdl/new-vision-cwa-303d-program-updated-framework-implementing-cwa-303d-program-responsibilities>.

the transition from paper to electronic reporting to comply with the NPDES Electronic Reporting Rule, which became effective on December 21, 2015.

Stormwater discharges are a significant cause of water quality impairment, especially in urban areas where rainwater flows over impervious cover, carrying pollutants and erosive flows into the nation's water bodies. The EPA will work with states as they revise and reissue their permits for stormwater discharges from construction activities and from industrial activities. The EPA also will continue to work with states as they issue permits and implement permitting programs for MS4s. Green infrastructure management approaches are an effective means to reduce water pollution caused by wet weather events. States will work with municipalities to implement Green Infrastructure and other stormwater management measures to better protect the nation's waters from stormwater discharges. They will need to help MS4 communities that are newly regulated develop sound stormwater programs.

Conducting Compliance Monitoring and Enforcement:

The EPA will continue to work with NPDES-authorized states to implement the 2014 Clean Water Act National Pollutant Discharge Elimination System Compliance Monitoring Strategy (NPDES CMS). The NPDES CMS establishes national goals for allocation of inspection resources across all NPDES regulated entities in order to best protect water quality. Many states utilize Section 106 grant funds to conduct the compliance monitoring activities outlined in their annual or biannual NPDES CMS plan.

In October 2009, the agency issued its Clean Water Act Action Plan to target enforcement on the most important water pollution problems, strengthen oversight of the states, and improve transparency and accountability. To implement the plan, the EPA consulted with a working group of state CWA agency representatives to develop a suite of four key actions we would undertake including: 1) Switching existing paper reporting to electronic reporting with automated compliance evaluations and improved transparency; 2) Creating a new paradigm in which our regulations and permits compel compliance via public accountability, self-monitoring, electronic reporting and other methods; 3) Addressing the most serious water pollution problems by fundamentally re-tooling key NPDES permitting and enforcement practices, while continuing to vigorously enforce against serious violators; and 4) Conducting comprehensive and coordinated permitting, compliance, and enforcement programs to improve state and EPA performance in protecting and improving water quality.²⁶

In order to maintain vigorous compliance monitoring and enforcement while accommodating a larger universe of regulated dischargers, the EPA will ask states to increase the use of Next Generation Compliance tools in their rules, permits and inspections. Next Generation Compliance tools include: advanced monitoring technologies, electronic reporting, public accountability, third party verification and innovative enforcement approaches. The new NPDES Electronic Reporting Rule requires electronic reporting of current paper-based NPDES reports. One of the benefits of the rule will be enhanced transparency and public accountability through more timely, complete, accurate, and consistent sets of data about the NPDES program. The EPA and the states will continue to work together on implementation issues. Also, during FY 2017, the EPA and states

²⁶ See "Clean Water Action Plan Implementation Priorities: Changes to Improve Water Quality, Increase Compliance, and Expand Transparency" issued on May 11, 2011.

will continue to work together to develop an improved approach to identify and prioritize the most serious NPDES violations for follow-up response.

Working with Tribal Water Pollution Control Programs:

In FY 2017, the EPA will continue to work with Tribal programs on activities that address water quality and pollution problems on Tribal lands. Working with Tribal governments, the EPA will continue to monitor the implementation of the *Clean Water Act Section 106 Tribal Guidance*, which forms a framework for tribes to establish, implement, and expand their Water Pollution Control Programs.

Performance Targets:

Measure	(L) Number of water body segments identified by states in 2002 as not attaining standards, where water quality standards are now fully attained (cumulative).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	2,809	3,073	3,324	3,727	3,829	4,016	4,082	4,182	Segments
Actual	2,909	3,119	3,527	3,679	3,866	3,944			

Measure	(bpl) Percent of high-priority state NPDES permits that are issued in the fiscal year.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	95	100	100	80	80	80	80	80	Permits
Actual	142	135	130	55	80	82			

Measure	(bpw) Percent of states and territories that, within the preceding 3-year period, submitted new or revised water quality criteria acceptable to the EPA that reflect new scientific information from the EPA or sources not considered in previous standards.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	66	64.3	64.3	64.3	66.1	67.9	67.9	73.2	States and Territories
Actual	67.9	69.6	69.6	58.9	51.8	64.3			

Measure	(bpx) Extent of priority areas identified by each state that are addressed by EPA-approved TMDLs or alternative restoration approaches for impaired waters that will achieve water quality standards. These areas may also include protection approaches for unimpaired waters to maintain water quality standards.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target						8	8	12	% Priority Watershed Areas
Actual						Data Avail 9/2016			

A key performance measure for the Water Pollution Control Program is the number of water body segments identified by states in 2002 as not attaining standards, where water quality standards are now fully attained. At the end of FY 2015, a cumulative 3,944 of the waters listed as impaired in 2002 met standards for all the impairments identified. State partners play a key role in developing and implementing plans and documenting progress. The EPA is replacing their performance measure that focused on the number of TMDLs established and approved. The EPA is transitioning to a new approach to track water quality progress using the National Hydrography Dataset Plus (NHDPlus) to calculate priority watershed areas using the NHDPlus ‘catchments’ to describe

where states have developed TMDLs and alternative restoration and protection approaches. This approach provides a consistent method for measuring progress at the local scale, while allowing for tighter integration with data and assessments at the state and national scale.

FY 2015 is the ninth consecutive year in which the EPA and states achieved the national goal of having current NPDES permits in place for non-tribal facilities. In addition, the EPA and authorized states were successful in meeting the annual national commitment for issuing high-priority permits, with 547 permits issued (commitment 526; states and regions met the 80 percent target).

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$15,358.0) This program change reflects an increase for states and tribes to implement water pollution control programs and strengthen their nutrient management efforts consistent with the 2011 Framework for state nutrient reduction.

Statutory Authority:

Clean Water Act, § 106.

Categorical Grant: Pollution Prevention

Program Area: Categorical Grants

Goal: Ensuring the Safety of Chemicals and Preventing Pollution

Objective(s): Promote Pollution Prevention

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	\$4,471.0	\$4,765.0	\$4,765.0	\$0.0
Total Budget Authority / Obligations	\$4,471.0	\$4,765.0	\$4,765.0	\$0.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Pollution Prevention (P2) Categorical Grants program augments the counterpart P2 program under the Environmental Program and Management (EPM) account.

Implementing the Pollution Prevention Act (PPA) of 1990, the Pollution Prevention (P2) program is one of the EPA’s primary tools for advancing environmental stewardship by federal, state and Tribal governments, businesses, communities and individuals. The P2 program seeks to alleviate environmental problems by achieving significant reductions in the generation of hazardous releases to air, water, and land; reductions in the use or inefficient use of hazardous materials; reductions in the generation of greenhouse gases; and reductions in the use of water. At the same time, the P2 Program helps businesses and others reduce costs as a result of implementing these preventative approaches. The P2 program’s efforts advance the agency’s priorities to pursue sustainability, take action on climate change, make a visible difference in communities, and ensure chemical safety.

The P2 Program accomplishes its mission by:

- Fostering the development of P2 solutions to environmental problems that eliminate or reduce pollution, waste and risks at the source, such as: cleaner production processes and technologies, safer, “greener” materials and products, and improved practices; and
- Promoting the adoption, use and market penetration of those solutions through such activities as providing technical assistance and demonstrating the benefits of P2 solutions.

For more information about the EPA’s P2 program, please see <http://www.epa.gov/p2/>.

FY 2017 Activities and Performance Plan:

In FY 2017, the P2 Categorical Grants program will continue supporting states, state entities (i.e., colleges and universities) and federally-recognized tribes and intertribal consortia in their efforts to help businesses identify environmental strategies and solutions for reducing or eliminating pollution at the source. The program supports projects that reflect comprehensive and coordinated

P2 planning and implementation efforts within the state or tribe to ensure that businesses and industry have ample opportunities to implement pollution prevention as a cost-effective way of meeting or exceeding federal and state regulatory requirements. The EPA provides grant funding to support technical assistance, and also addresses priority environmental problems aimed at reducing hazardous materials and hazardous pollution. In FY 2017, states, tribes and other grantees, with support from the program, will choose to focus on one or more of the following P2 national emphasis areas: climate change mitigation; food manufacturing or processing; and state or community approaches to hazardous materials source reduction.

P2 grants are awarded by the EPA's regional offices. This enables the agency to focus resources on targeted regional priorities. In addition to supporting traditional P2 technical assistance programs, many states and tribes use P2 grants to assist businesses by initiating regulatory integration projects to implement prevention strategies in core media programs, train regulatory staff on P2 concepts and best practices and examine opportunities for incorporating pollution prevention into permits, inspections and enforcement. States and tribes also have established pollution prevention programs in non-industrial sectors such as hospitality, agriculture, energy, health and transportation.

The EPA continues to invest in a national network of regional Pollution Prevention Information centers. The EPA relies on these grantees to bring together state and local programs and businesses across state boundaries to share pollution prevention (P2) expertise, provide training in P2 practices and promote mentoring between businesses. The regional centers also provide high quality, peer-reviewed information to state, local and Tribal technical assistance centers as well as making P2 information and training available to businesses through websites, databases, and webinars. In FY 2017, the EPA also will consolidate the national work of the centers and focus on documenting regional results, such as increased knowledge or increased service capacity of state P2 programs. The national network provides opportunities to link state efforts in the P2 national emphasis areas.

For a description of the network services and regional activities see:
<http://www2.epa.gov/p2/pollution-prevention-resource-exchange-p2rx>.

Performance Targets:

Work under this program supports performance results in the Pollution Prevention Program under the EPM appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- No change in program funding.

Statutory Authority:

Pollution Prevention Act of 1990; Toxic Substances Control Act.

Categorical Grant: Public Water System Supervision (PWSS)

Program Area: Categorical Grants
 Goal: Protecting America's Waters
 Objective(s): Protect Human Health

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	\$102,021.2	\$101,963.0	\$109,700.0	\$7,737.0
Total Budget Authority / Obligations	\$102,021.2	\$101,963.0	\$109,700.0	\$7,737.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Public Water System Supervision (PWSS) program provides grants to states and tribes with primary enforcement authority (primacy) to implement and enforce the National Primary Drinking Water Regulations, as well as to build system capacity to reliably provide safe water to their consumers. These grants help to ensure the safety of the nation’s drinking water resources while protecting public health. The states are the primary implementers of the national drinking water program and work with the public water systems within their jurisdiction to achieve and maintain compliance with drinking water rules.

The National Primary Drinking Water Regulations set forth health-based standards, and monitoring, reporting and recordkeeping, sanitary survey, compliance tracking, and enforcement elements to ensure that the nation’s drinking water supplies do not pose adverse health effects. These grants are a key implementation tool under the Safe Drinking Water Act and support the states’ role in a federal/state partnership of ensuring safe drinking water supplies to the public. States use these grant funds to fund drinking water program personnel who:

- Provide technical assistance to owners and operators of public water systems;
- Manage public water system data, facilitate electronic reporting of compliance monitoring data, and submit that data into the Safe Drinking Water Information System (SDWIS);
- Share sampling results with the public;
- Respond to violations;
- Certify laboratories;
- Conduct laboratory analyses;
- Conduct sanitary surveys;
- Respond to questions from the public;
- Train and certify public water system operators; and
- Provide training and technical assistance to small system staff and management to build water system technical, managerial, and financial capacity.

Some states and tribes do not have primary enforcement authority. Funds allocated to the State of Wyoming, the District of Columbia, and Indian tribes without primacy are used to support direct

implementation activities by the EPA or for developmental grants to Indian tribes to develop capacity for primacy.²⁷

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will support state and Tribal efforts to assist water systems in meeting existing drinking water regulations and implementing the new Revised Total Coliform Rule (RTCR). Since all public water systems must comply with the RTCR by April 2016, states will continue to assist systems, especially small systems, in complying with the new RTCR requirements and conduct assessments. The EPA is requesting a \$7.7 million increase to focus on a variety of strategies that will specifically address challenges public water systems are facing today that impede their ability to achieve long-term sustainability. These challenges include lack of managerial capacity, significant water loss due to pipe failures in distribution systems, and climate change threats to the quality and quantity of drinking water sources. Additional resources will allow states and tribes to increase training and technical assistance to improve the managerial capacity of system personnel in the areas source water protection, financial planning, asset management, and implementation of sustainable practices such as water loss and conservation to protect the infrastructure investments. The EPA will build on current efforts to identify, prevent, and protect drinking water from known and emerging contaminants that potentially endanger public health. All these activities help address health based violations, water supply shortages and provide operational efficiencies that protect the nation's infrastructure investment.

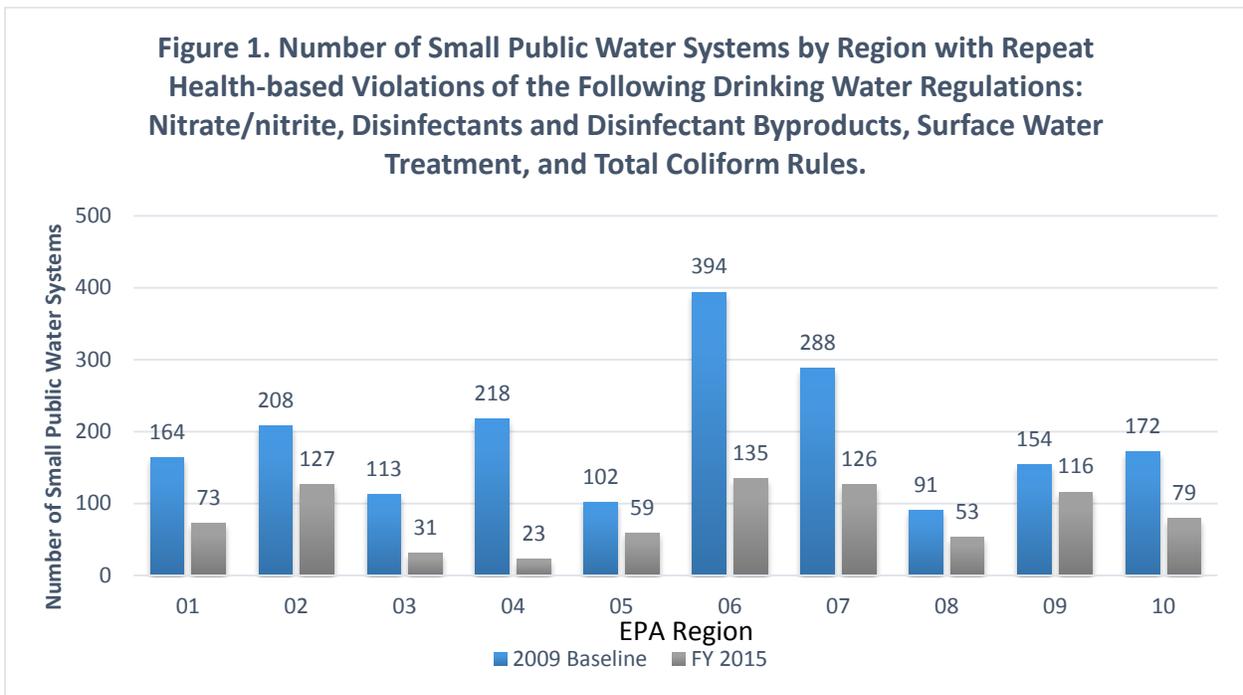
The EPA missed slightly its FY 2015 performance target for percent of population served by Community Water Systems (CWSs) that receive drinking water that meets all applicable health violations (FY 2015 target: 92 percent; FY 2015 result: 91 percent). Factors that contributed to the missed target include violations at several large drinking water systems related to the Total Coliform Rule, the Stage 2 Disinfectants and Disinfection Byproducts Rule, and/or the nitrates regulation as well as ongoing infrastructure challenges. Additional funding will be used to reinvigorate training and technical assistance activities to support regulatory compliance. These activities may include training on basic requirements as well as more advanced treatment and operational issues. The EPA will work with both primacy agencies and water stakeholders to identify specific training needs, and identify potential solutions to compliance-related problems regarding these three regulations.

The PWSS program allows states and tribes to help public water systems achieve and maintain compliance with standards and has helped to decrease the number of small systems that have repeat health-based violations of standards by 56 percent since 2009 (see Figure 1), although small system challenges remain. Through implementation of the PWSS program in FY 2015, 90 percent of community water systems (CWSs) met all applicable health-based standards, meeting the performance target of 90 percent. In addition, the percentage of community water systems in 2015 that completed a sanitary survey within the compliance schedule (90.8 percent) was above the annual target (79 percent).

²⁷ For more information see:

<http://www.epa.gov/dwreginfo/public-water-system-supervision-pwss-grant-program> and
<https://www.cfda.gov/index?s=program&mode=form&tab=step1&id=cca066b833c552bdf3c9ff011e576c7f>.

Figure 1. Number of Small Public Water Systems by Region with Repeat Health-based Violations of the Following Drinking Water Regulations: Nitrate/nitrite, Disinfectants and Disinfectant Byproducts, Surface Water Treatment, and Total Coliform Rules.



In FY 2017, states and tribes will continue to use their PWSS funds to ensure that:

- Public drinking water systems of all sizes achieve or remain in compliance;
- Public drinking water systems of all sizes are meeting recent regulatory requirements (e.g., Long-Term 2 Enhanced Surface Water Treatment Rule, Stage 2 Disinfectants and Disinfection Byproducts Rule, Ground Water Rule; and the Revised Total Coliform Rule);
- Data are complete, accurate and submitted to the EPA in a timely manner, and that primacy agencies are transitioning to SDWIS Prime;
- Public water systems of all sizes with violations return to compliance as quickly as possible; and,
- All systems undergo sanitary surveys conducted according to the required schedules.

Performance Targets:

Measure	(aa) Percent of population served by CWSs that will receive drinking water that meets all applicable health-based drinking water standards through approaches including effective treatment and source water protection.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	90	91	91	92	92	92	92	92	Population
Actual	92	93.2	94.7	92	93	91			

Measure	(apm) Percent of community water systems that meets all applicable health-based standards through approaches including effective treatment and source water protection.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	90	90	90	90	90	90	90	90	Systems
Actual	89.6	90.7	91	91	91	90			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$7,737.0) This program change reflects an increase that will enable states to: provide assistance for systems to improve asset management programs, encourage financial planning that includes the development of efficient rate structures, identify potential threats to drinking water sources in a watershed, plan for water availability challenges such as droughts and floods, and evaluate the opportunities to facilitate water system partnerships. These activities help public water systems, and especially small systems, develop and maintain managerial, financial, and technical capacity to support the life cycle of their infrastructure over the long-term. This increase also will help states and tribes address the increased workload resulting from emerging issues such as drought and harmful algal blooms.

Statutory Authority:

Safe Drinking Water Act, § 1443.

Categorical Grant: Radon

Program Area: Categorical Grants

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Improve Air Quality

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	\$8,266.7	\$8,051.0	\$0.0	(\$8,051.0)
Total Budget Authority / Obligations	\$8,266.7	\$8,051.0	\$0.0	(\$8,051.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

Exposure to indoor radon is the second-leading cause of lung cancer and the leading cause of lung cancer for non-smokers. The EPA’s non-regulatory radon program promotes public action to reduce the health risk from indoor radon. The EPA has assisted states and tribes through technical support and the State Indoor Radon Grants (SIRG) program, which provided categorical grants to develop, implement, and enhance programs that assess and mitigate radon risk. Section 306 of the Indoor Radon Abatement Act (IRAA) authorizes radon grant assistance to states, as defined by TSCA Title III. The EPA targeted this funding to support states with the greatest populations at highest risk. The EPA supplemented grant dollars with technical support to transfer “best practices” among states that promote effective program implementation across the nation.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will eliminate funding for the SIRG program and focus the agency’s efforts toward maintaining public outreach efforts, encouraging action in the marketplace and driving progress at the federal level. Exposure to radon gas continues to be an important risk to human health, and over the 28 years of its existence, the EPA’s radon program has provided important guidance and significant funding to help states establish their own programs.

Performance Targets:

Work under this program also supports performance results in the Indoor Air: Radon Program under the Environmental Programs and Management Tab and can be found in the Eight-Year Performance Array in the Program Performance and Assessment section. Currently, there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$8,051.0) This program change eliminates funding for the State Indoor Radon Grants (SIRG) program.

Statutory Authority:

CAA Amendments of 1990; Radon Gas and Indoor Air Quality Research Act; Title IV of the SARA of 1986; TSCA, Section 6, Titles II and Title III (15 U.S.C. 2605 and 2641-2671); and IRAA, Section 306.

Categorical Grant: State and Local Air Quality Management

Program Area: Categorical Grants

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Address Climate Change; Improve Air Quality

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	<i>\$231,120.5</i>	<i>\$228,219.0</i>	<i>\$268,229.0</i>	<i>\$40,010.0</i>
Total Budget Authority / Obligations	\$231,120.5	\$228,219.0	\$268,229.0	\$40,010.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

This program provides funding for state air programs, as implemented by multi-state, state, and local air pollution control agencies. Section 103 of the Clean Air Act (CAA) provides the EPA with the authority to award grants to a variety of agencies, institutions, and organizations, including the air pollution control agencies funded from the STAG appropriation, to conduct and promote certain types of research, investigations, experiments, demonstrations, surveys, studies, and training related to air pollution. Section 105 of the CAA provides the EPA with the authority to award grants to state and local air pollution control agencies to develop and implement continuing environmental programs for the prevention and control of air pollution, for the implementation of National Ambient Air Quality Standards (NAAQS) set to protect public health and the environment, and for improving visibility in our national parks and wilderness areas (Class I areas). The continuing programs funded under Section 105 include development and implementation of emission reduction measures, development and operation of air quality monitoring networks, and a number of other air program areas. Section 106 of the CAA provides the EPA with the authority to fund interstate air pollution transport commissions to develop or carry out plans for designated air quality control regions.

FY 2017 Activities and Performance Plan:

Addressing Climate Change

For FY 2017, the EPA is requesting additional resources for state air programs as they implement the requirements of the Clean Power Plan. In particular, the agency will work with states to implement their obligations under section 111 (b) and (d) of the Clean Air Act with regard to greenhouse gas emissions from electric utility generating units. This is a significant undertaking for the states requiring substantial resources to conduct the wide range of actions, including modeling and analyses, and extensive stakeholder outreach and engagement, to develop approvable plans. In FY 2017, states with approved or delegated permitting programs will continue to implement permitting requirements as part of their programs. The EPA will continue to undertake actions required as a result of the Supreme Court’s 2014 decision on the EPA’s Tailoring Rule as well as the April 2015 D.C. Circuit Amended Judgment implementing the Supreme Court decision.

Improving Air Quality

For FY 2017, the EPA is requesting additional resources for continuing environmental state programs responsible for air quality implementation activities. In FY 2017, States will continue to be responsible for State Implementation Plans (SIPs) which provide a blueprint for the programs and activities that states carry out to achieve and maintain the NAAQS and reduce regional haze. There are several events that trigger SIP updates. For example, when the EPA promulgates a new or revises an existing NAAQS, affected states must update certain parts of their SIPs within three years. In FY 2017, states will be reviewing their SIPs for implementing ozone standards revised in 2015. Also, affected states will be completing development of attainment SIPs for areas designated nonattainment for the 2012 fine particle (PM_{2.5}) NAAQS and the 2010 sulfur dioxide (SO₂) NAAQS.

States will continue implementing the 2008 8-hour ozone NAAQS, the 2008 lead NAAQS, the 2010 1-hour nitrogen dioxide (NO₂) NAAQS, and the 2010 1-hour sulfur dioxide (SO₂) NAAQS. As appropriate, states also will continue implementing the previous PM_{2.5} and ozone NAAQS, including the 1997 annual PM_{2.5} NAAQS, the 2006 24-hour PM_{2.5} NAAQS, and the 1-hour and 1997 8-hour ozone NAAQS (through anti-backsliding requirements). SIP preparation for some pollutants is complicated due to the regional nature of air pollution that requires additional and more detailed modeling, refined emissions inventories, and greater stakeholder involvement. In FY 2017, the EPA will work with states to develop approvable SIP submissions and provide technical assistance in implementing their plans for the NAAQS and regional haze.

The multi-pollutant monitoring site network (NCore) serves multiple objectives such as measuring long-term trends of air pollution, validating models, and providing input to health and atmospheric science studies. The EPA will continue to work closely with states to operate this network of approximately 80 stations across the nation. NCore stations provide measurements for particles, including filter-based and continuous mass for PM_{2.5}; chemical speciation for PM_{2.5}; and PM₁₀ - PM_{2.5} mass. Stations also measure gases such as carbon monoxide (CO), SO₂, nitrous oxides, and ozone, and record basic meteorology.

In 2015, the EPA finalized its review of the ozone NAAQS monitoring requirements, extending the ozone monitoring season in 33 states and revising monitoring requirements for the Photochemical Assessment Monitoring Stations (PAMS). Any PAMS revised monitoring requirements are required to be operational in 2019. The EPA also finalized the Data Requirements Rule for the 2010 1-hour SO₂ NAAQS. In 2016, states will choose between monitoring and modeling for meeting SO₂ air data requirements. States will submit modeling or begin monitoring in FY 2017.

In FY 2016, the EPA will continue its review of the monitoring requirements supporting the NO₂ NAAQS. Data collected from monitoring sites implemented under phases 1 and 2 of the near-road monitoring network will be considered as part of this review for the determination of the appropriate network design.

In FY 2017, states are also required to establish CO and PM_{2.5} monitors at a subset of the near-road monitoring sites required by the NO₂ NAAQS. The EPA expects that this network transition

will largely involve the relocation of existing CO and PM_{2.5} monitors.

The development of a complete emission inventory is an important step in an air quality management process. Emission inventories are used to help determine significant sources of air pollutants and establish emission trends over time, target regulatory actions, and estimate air quality through computer dispersion modeling. An emission inventory includes estimates of the emissions from various pollution sources in a specific geographical area. This program enables states to develop these inventories and submit data to the EPA. The EPA works with its state partners to quality assure the data and to prepare for the release of the National Emission Inventory.

This program supports state and local agency capabilities to provide air quality forecasts that provide the public with information they can use to make daily lifestyle decisions to protect their health. This information allows people to take precautionary measures to avoid or limit their exposure to unhealthy levels of air quality. In addition, many communities use forecasts for initiating air quality “action” or “awareness” days, which seek voluntary participation from the public to reduce pollution and improve local air quality. Current air quality forecasting efforts focus on predicting ozone and PM_{2.5}.

This program also supports state and local efforts to characterize air toxics problems and take measures to reduce health risks from air toxics, most often through implementation of EPA regulations. New and revised New Source Performance Standards (NSPS) and Maximum Achievable Control Technology (MACT) standards have increased the workload for states as they are the delegated authority to enforce many of these standards that will reduce air toxics and other pollution from stationary sources. This funding also supports characterization work that includes collection and analysis of emissions data and monitoring of ambient air toxics. In FY 2017, funds for air toxic ambient monitoring also will support the National Air Toxics Trends Stations (NATTS), consisting of 27 air toxics monitoring sites operated and maintained by state and local air pollution control agencies across the country, including the associated quality assurance, data analysis, and methods support. Funds also will support the Community Scale Air Toxics Monitoring Program to help local communities identify and profile air toxics sources, develop and assess emerging measurement methods, characterize the degree and extent of local air toxics problems, and track progress of air toxics reduction activities. Finally, this program supports state efforts to monitor compliance and enforce MACT standards for major sources and regulations to control emissions from area sources.

Under the regional haze program, states will be implementing control measures required from their initial visibility improvement SIPs. A few states will be submitting plans to meet the five-year reporting requirements to ensure that they are making progress toward their visibility improvement goals. Comprehensive regional haze SIP revisions are due 2018, and states will be planning the extensive engineering, modeling, and cost analyses necessary to make continued progress toward the goal of natural conditions for the wilderness areas and national parks designated by Congress for visibility efforts.

In FY 2017, the EPA will begin transitioning the funding of the PM_{2.5} monitoring network from Section 103 authority of the CAA, which provides 100 percent federal funding, to section 105 authority of the CAA, which provides cost-sharing between the EPA and the states at 60

percent and 40 percent respectively. The phased transition will begin in FY 2017 and spans four years, at which point the network will be completely funded under Section 105 authority.

Performance Targets:

Work under this program supports performance results in the Federal Support for Air Quality Management program under the Environmental Programs and Management appropriation. These measures can also be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted (Dollars in Thousands):

- (+\$15,010.0) This program increase supports continuing environmental state programs responsible for carrying out air quality implementation activities, as described above.
- (+\$25,000.0) This program increase supports states as they implement the requirements of the Clean Power Plan. Of this increase, \$17.5 million will be provided to support states' Clean Power Plan modeling, technical analysis, and training efforts under CAA Section 103 authority and \$7.5 million will be allocated to states for Clean Power Plan activities under CAA Section 105 authority. States will be required to submit grant workplans outlining specific Clean Power Plan activities to be conducted under Section 103 authority supporting state plan development. States also will be required to outline specific Clean Power Plan activities to be conducted under Section 105 authority as part of state continuing environmental program grant workplans.

Statutory Authority:

Clean Air Act, §§ 103, 105.

Categorical Grant: Toxics Substances Compliance

Program Area: Categorical Grants

Goal: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

Objective(s): Enforce Environmental Laws to Achieve Compliance

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	\$4,817.4	\$4,919.0	\$4,919.0	\$0.0
Total Budget Authority / Obligations	\$4,817.4	\$4,919.0	\$4,919.0	\$0.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Toxic Substances Compliance program builds environmental partnerships with states and tribes to strengthen their ability to address environmental and public health threats from toxic substances such as Polychlorinated Biphenyls (PCBs), asbestos, and lead-based paint. These chemicals have been identified as harmful to human health and the environment. Exposure to these chemicals can present long term adverse health effects to humans, if they are exposed. Examples of potential impacts include:

- Asbestos in schools can affect children and long-term employees exposed to friable fibers. Children and employees may be impacted with respiratory health and cancer diseases 15 years after exposure.²⁸
- PCBs are bioaccumulative and are never released from the human body. Accumulation over time can cause cancer.
- Lead-based paint can cause high blood lead levels, which among other things, can affect neurological development in young children and reduce growth of the fetus in pregnant women.

Cooperative agreements are used to fund inspections, compliance monitoring activities, and enforcement capabilities to prevent or eliminate unreasonable risks to health or the environment.

These funds are used to:

- Encourage states to establish their own programs for lead-based paint and asbestos (waiver) programs. These states use the funds for inspections, compliance monitoring, and enforcement activities.

²⁸ For additional information, refer to: <http://www2.epa.gov/compliance/toxic-substances-control-act-tsca-compliance-monitoring>.

- Provide cooperative agreements to states and tribes to conduct inspections and compliance monitoring activities to ensure compliance with the PCB regulations, the Asbestos-in-Schools requirements, the Model Accreditation Plan, Asbestos Ban and Phase Out Rule,²⁹ the Toxic Substances Control Act Asbestos Worker Protection Rule, and lead-based paint regulations. States receiving a cooperative agreement for the PCB and/or asbestos programs must contribute 25 percent of the total cost of the program being funded.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA's Enforcement and Compliance Assurance program will continue to award state and Tribal cooperative agreements to assist in the implementation of compliance and enforcement provisions of the Toxic Substances Control Act (TSCA). During FY 2017, the EPA is scheduled to award 73 grants to 42 states and the District of Columbia: 25 grants for TSCA Asbestos; 39 grants for Lead-based Paint; and 9 PCB grants. For all three programs (PCBs, Asbestos, and Lead-based paint), funds are used to conduct inspections and compliance monitoring activities, and where appropriate, enforce waiver and lead-based paint requirements.

The inspections conducted through the TSCA Compliance Monitoring cooperative agreements ensure: protection of thousands of school children, teachers, and staff from asbestos exposure; proper lead safe work practices for workers and property owners during painting, renovation or abatement activities; that potential home buyers and renters are informed of any lead-based paint hazards; and compliance with the PCB program at facilities that use PCBs in products and treatment or disposal facilities that manage or destroy the chemical. In addition, these funds may be used to: train inspectors; provide inspection equipment including sampling and personal protective equipment; and fund travel and salary costs associated with conducting inspections. The compliance monitoring activities conducted by the states will be a cooperative endeavor addressing the priorities of the federal Toxic Substances Control Act program and state issues.

Performance Targets:

Work under this program supports the strategic objective Enforce Environmental Laws. Currently, there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- No change in program funding.

Statutory Authority:

Toxic Substances Control Act.

²⁹ 40 CFR part 763, subpart I.

Categorical Grant: Tribal Air Quality Management

Program Area: Categorical Grants

Goal: Addressing Climate Change and Improving Air Quality

Objective(s): Improve Air Quality

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	<i>\$13,610.5</i>	<i>\$12,829.0</i>	<i>\$12,829.0</i>	<i>\$0.0</i>
Total Budget Authority / Obligations	\$13,610.5	\$12,829.0	\$12,829.0	\$0.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

This program includes funding for Tribal air pollution control agencies and/or tribes. Through Clean Air Act (CAA) Section 105 grants, tribes may develop and implement programs for the prevention and control of air pollution and implementation of national primary and secondary National Ambient Air Quality Standards (NAAQS). Through CAA Section 103 grants, Tribal air pollution control agencies or tribes, colleges, universities, and multi-tribe jurisdictional air pollution control agencies may conduct and promote research, investigations, experiments, demonstrations, surveys, studies, and training related to ambient or indoor air pollution in Indian country.

FY 2017 Activities and Performance Plan:

Tribes will assess environmental and public health conditions in Indian country by developing emission inventories and, where appropriate, siting and operating air quality monitors. Tribes will continue to develop and implement air pollution control programs for Indian country to prevent and address air quality concerns. The EPA will continue to fund organizations for the purpose of providing technical support, tools, and training for tribes to build capacity to develop and implement programs, as appropriate. A key activity is to work to reduce the number of days in violation of the NAAQS. This program supports the agency's priority of building strong partnerships with individual tribes and with the National Tribal Air Association (NTAA), who priorities include tribes' ability to collect and provide valuable monitoring data and the health of their tribal members.

In FY 2017, continued implementation of the Tribal New Source Review (NSR) rule will require significant and focused resources for tribes. The EPA has the primary responsibility for implementing the rule. The tribes may opt to take an active role in implementation by developing a Tribal Implementation Plan (TIP), managing the program under the EPA's authority, or by actively participating in the permit review and outreach process.

The EPA recently finalized the Clean Power Plan, which establishes CO₂ emission performance goals for affected power plants in the contiguous U.S., including the four affected power plants in Indian country. The EPA is currently consulting with tribes and reviewing comments from other

stakeholders on whether to implement the Clean Power Plan in areas of Indian country with affected power plants. The EPA also is reviewing public comment on a proposed federal plan that the EPA could use to implement the CPP in these areas, or that the EPA could fully or partially delegate to tribes. In FY 2017, the agency intends to work with tribes interested in developing renewable energy and energy efficiency resources that may support components of the Clean Power Plan.

Performance Targets:

Work under this program supports performance results in the Federal Support for Air Quality Management program under the Environmental Programs and Management appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- No change in program funding.

Statutory Authority:

Clean Air Act, §§ 103, 105

Categorical Grant: Tribal General Assistance Program

Program Area: Categorical Grants

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Strengthen Human Health and Environmental Protection in Indian Country

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	\$66,416.6	\$65,476.0	\$96,375.0	\$30,899.0
Total Budget Authority / Obligations	\$66,416.6	\$65,476.0	\$96,375.0	\$30,899.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

In 1992, Congress established the Indian Environmental General Assistance Program (GAP) to provide grants and technical assistance to tribes to cover the costs of planning, developing, and establishing Tribal environmental protection programs consistent with other applicable provisions of law administered by the EPA, providing for enforcement of such laws by tribes on Indian lands. The EPA works collaboratively with our Tribal partners on mutually identified environmental and health priorities, including Tribal youth, to achieve these aims. Funding is provided under GAP to develop the administrative, technical, legal, enforcement, communication, and outreach capacities tribes need to effectively administer environmental regulatory programs that the EPA may delegate to tribes. Please see <http://www.epa.gov/aieo/gap.htm> for more information.

This funding request addresses a long standing need to provide tribes with a stronger foundation of base resources to advance their environmental program capacity and improve the recruitment and retention of qualified environmental professionals.

Some uses of GAP funds include the following:

- Assessing the status of a tribe's environmental conditions through EPA approved environmental monitoring and assessment practices;
- Developing appropriate environmental programs and ordinances;
- Developing the capacity to administer environmental regulatory programs that the EPA may delegate to a tribe;
- Conducting public education and outreach efforts to ensure that Tribal communities (including Tribal youth) are informed and able to participate in environmental decision-making; and,
- Promoting communication and coordination among federal, state, local, and Tribal environmental officials; including developing the ability to meaningfully participate in Tribal consultation activities with the EPA on environmental actions and issues.

GAP currently supports Tribal capacity through financial assistance to more than 530 Tribal governments and inter-Tribal consortia. GAP has helped tribes receive 105 program delegations, approvals, and primacies for tribes to administer a variety of programs across a number of statutes,

including the Clean Water Act, Safe Drinking Water Act, and the Clean Air Act. GAP also has supported Tribes to have sufficient capacity to assist the EPA (through Direct Implementation Tribal Cooperative Agreements (DITCAs)) in implementing federal environmental programs in the absence of an EPA-approved Tribal program. As of FY 2015, there were 25 active DITCAs supporting the EPA’s direct implementation activities. Similarly, the EPA also has been able to certify 23 Tribal inspectors for various federal compliance programs. GAP also supported tribes with the development of their waste management programs; over 200 tribes have established Integrated Waste Management Plans.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA’s GAP grants will assist Tribal governments in building environmental protection program capacity to assess environmental conditions; utilize available federal, state, local, and other relevant environmental information to improve long-range environmental program development planning; and build environmental programs tailored to Tribal needs consistent with long-range plans.

The “*Guidance on the Award and Management of General Assistance Agreements for Tribes and InterTribal Consortia*”³⁰ establishes an overall framework for tribes and the EPA to follow in building Tribal environmental capacity under GAP. Specifically, the guidance requires more effective joint strategic planning through EPA-Tribal Environmental Plans (ETEPs) to document long-range Tribal environmental program development priorities. These strategic planning documents inform funding decisions by linking ETEP goals to annual GAP assistance agreement work plans and by providing a mechanism to measure Tribal progress to meet their program development goals. In FY 2017, the EPA will continue to implement GAP under this new national framework and expand the number of ETEPs, with the goal of having ETEPs drafted for all federally-recognized tribes by the end of FY 2018. A growing number of GAP grant work plans will reference these ETEPs and provide a means for tracking Tribal progress toward their long-term goals. By the end of FY 2017, the EPA plans to establish ETEPs with 86 percent of tribes receiving GAP assistance agreements. The EPA will maintain an emphasis on trainings (internal and external) in FY 2017 to support GAP Guidance implementation, provide technical assistance to GAP grant recipients, and develop other guidance implementation support materials.

Performance Targets:

Measure	(5PQ) Percent of Tribes implementing federal regulatory environmental programs in Indian country (cumulative).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	14	18	22	24	25	25	25	25	Percent
Actual	14	17	21	19	19	20			
Measure	(5PR) Percent of Tribes conducting EPA approved environmental monitoring and assessment activities in Indian country (cumulative.)								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	42	52	54	57	58	58	58	58	Percent
Actual	50	52	54	56.5	31	36			

³⁰ <http://www.epa.gov/tp/GAP-guidance-final.pdf>.

The performance trends have plateaued due to the small number of tribes which have sought federal environmental program implementation authorities and under-staffed Tribal environmental departments.

New performance measures are being developed that will allow the program to more completely track progress on building Tribal environmental program capacity. These new measures are planned to be completed within the timeframe of the next strategic plan (FY 2018-2022). While these new measures will allow EPA to more precisely identify challenges to implementing tribal environmental programs, increased GAP funding is needed if EPA and the tribes are to make meaningful strides.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$30,899.0) This program change will increase base funding for individual GAP grants. Tribes depend on Tribal GAP support to develop strong environmental programs and to recruit and retain qualified environmental professionals. This additional support will allow tribes to develop multiple media-specific environmental programs and also will ensure adequate resources are available to grantees to successfully implement the EPA-Tribal Environmental Plans (ETEPs).

Statutory Authority:

The Indian Environmental General Assistance Act of 1992, 42 U.S.C. § 4368b (1992), as amended.

Categorical Grant: Underground Injection Control (UIC)

Program Area: Categorical Grants
 Goal: Protecting America's Waters
 Objective(s): Protect Human Health

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	<i>\$11,130.5</i>	<i>\$10,506.0</i>	<i>\$10,506.0</i>	<i>\$0.0</i>
Total Budget Authority / Obligations	\$11,130.5	\$10,506.0	\$10,506.0	\$0.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The EPA’s Underground Injection Control (UIC) grant program is implemented by federal, state, and Tribal government agencies that oversee underground injection activities in order to prevent contamination of underground sources of drinking water. Underground injection is the placement of fluids beneath the earth’s surface in porous rock formations through wells or other similar conveyance systems. Billions of gallons of fluids are injected underground each year, including the majority of hazardous wastewater that is land-disposed. In recent years, the use of underground injection has expanded to include injection of water for later use, and injection for the long-term storage of carbon dioxide (CO₂).

When wells are properly sited, constructed, and operated, underground injection is an effective method of managing fluids. The Safe Drinking Water Act established the UIC program to provide safeguards so that injection wells do not endanger current and future underground sources of drinking water. In FY 2015, the UIC program surpassed its national commitments for returning Class I, II, and III salt solution mining wells that have lost mechanical integrity back to compliance within 180 days (result: 88 percent/target: 85 percent). The most accessible underground freshwater is present in shallow geological formations (*i.e.*, shallow aquifers) and is the most vulnerable to contamination from improper practices.

The persistent drought in much of the western U.S. and the increased reliance on underground sources of drinking water emphasizes the importance of a robust underground injection control program for protection of public health.

The EPA provides financial assistance in the form of grants to states and tribes that have primary enforcement authority (primacy) to implement and manage UIC programs. Eligible Indian tribes that demonstrate an intent to achieve primacy also may receive grants for the initial development of UIC programs and be designated for “Treatment as a State” if their programs are approved. Where a jurisdiction is unable or unwilling to assume primacy, the EPA uses grant funds for direct implementation of federal UIC requirements. The EPA directly implements programs in nine states

and two territories and shares responsibility in seven states and two tribes. The EPA also administers the UIC programs for all other tribes.³¹

FY 2017 Activities and Performance Plan:

Ensuring safe underground injection of fluids, including waste fluids, is a fundamental component of a comprehensive source water protection program that, in turn, is a key element in the agency's multi-barrier approach to providing clean and safe drinking water. The UIC program continues to manage approximately 482,000 Class V³² injection wells to protect our groundwater resources. The requested funding allows for the implementation of the UIC program including for states and tribes to administer Underground Injection Control permitting programs, provide program oversight, implementation tools, and public outreach, and ensure that injection wells are safely operated.

States and the EPA also will process Underground Injection Control permits for other nontraditional injection streams such as desalination brines and treated waters injected for storage and recovered at a later time. In addition, the EPA will continue to process primacy applications and permit applications for Class VI geological sequestration wells. Geologic Sequestration (GS) is the process of injecting CO₂ captured from an emission source (e.g., a power plant or industrial facility) into deep, subsurface rock formations for long-term storage. It is part of a process known as carbon capture and storage (CCS). The EPA's UIC program regulates underground injection of CO₂ into Class VI wells for the purpose of geologic sequestration while ensuring underground sources of drinking water (USDW) protection. The Class VI rule, provides a regulatory framework to implement a consistent approach to permitting geologic sequestration projects across the U.S. and supports the development of a potentially key climate change mitigation technology.

The EPA currently directly implements the Class VI geologic sequestration program across the United States, as no states have received approval for Class VI primacy. The EPA will continue to work with states interested in applying for Class VI primacy, and continue to carry out regulatory functions for Class VI geologic sequestration wells, along with other classes of wells for which the EPA has direct implementation responsibility.

The EPA will continue its support of state oil and gas programs as they implement the UIC Class II program. In 2014, the EPA released guidance on hydraulic fracturing to help ensure the benefit of energy development while not jeopardizing precious drinking water resources and environmental quality.³³ The EPA will continue to communicate to states and operators the requirements and responsibilities regarding the use of diesel fuels during hydraulic fracturing. In a July 2015 report, the EPA OIG found that enhanced EPA oversight of the Class II permitting process for diesel fuel use during hydraulic fracturing can further the EPA efforts to protect water resources. The EPA will continue to use its oversight authorities under the Safe Drinking Water Act to work with state primacy programs and the EPA regional permit authorities to communicate requirements and responsibilities regarding the use of diesel fuels during hydraulic fracturing, and

³¹ For more information, please visit:

<https://www.cfd.a.gov/index?s=program&mode=form&tab=step1&id=c1307f57fe8bec34f1a65660eff495a8&cck=1&au=&ck=>
and <http://water.epa.gov/type/groundwater/uic/index.cfm>.

³² As represented in calendar year 2014 annual inventory.

³³ For more information, visit: <http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/upload/epa816r14001.pdf>.

to evaluate reports of unpermitted use of diesel fuels in hydraulic fracturing. If a permit is warranted, the EPA will ensure that the activity is permitted in a manner that is protective of underground sources of drinking water.

In 2015, the EPA released the EPA-State UIC National Technical Workgroup (NTW) report, *Minimizing and Managing Potential Impacts of Injection-Induced Seismicity from Class II Disposal Wells: Practical Approaches*.³⁴ This report was developed cooperatively with states to help protect underground sources of drinking water by reducing the chances for induced seismicity. The report has helped UIC managers in Oklahoma, Kansas and other states to address induced seismicity in injection operations and describes permit conditions that can be added to manage the potential for induced seismicity.

The EPA also will continue to work with the Department of Energy (DOE) and the Department of the Interior (DOI) to support state programs as they oversee hydraulic fracturing activities including Class II disposal wells. The DOE, DOI, and the EPA continue to engage in a multi-agency research effort to address the highest-priority research questions associated with safely and prudently developing unconventional shale gas and tight oil resources. This effort focuses on timely, policy-relevant science directed to research topics where collaboration among the three agencies can be most effectively and efficiently conducted.

Performance Targets:

Measure	(aps) Percent of Classes I, II and III salt solution mining wells that have lost mechanical integrity and are returned to compliance within 180 days, thereby reducing the potential to endanger underground sources of drinking water.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			90	85	85	85	85	85	Wells
Actual			85	89	89	88			

Measure	(apt) Number of Class V motor vehicle waste disposal wells (MVWDW) and large capacity cesspools (LCC) [approximately 23,640 in FY 2010] that are closed or permitted (cumulative).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target			20,840	25,225	25,225	25,225	27,783	28,083	Wells
Actual			25,225	26,027	26,560	27,383			

In FY 2015, 88 percent of Class I, II, and III wells that lost mechanical integrity were returned to compliance within 180 days, thereby reducing the potential to endanger underground sources of drinking water. Also in FY 2015, the cumulative number of Class V motor vehicle waste disposal wells (MVWDW) and large capacity cesspools (LCC) that were closed or permitted reached 27,383, up an additional 823 wells from FY 2014 numbers. These measures serve as an indicator of the program’s effectiveness in preventing contamination of underground sources of drinking water and protecting public health.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- No change in program funding.

³⁴ For more information, visit: <http://www.epa.gov/r5water/uic/ntwg/pdfs/induced-seismicity-201502.pdf>.

Statutory Authority:

Safe Drinking Water Act, § 1443

Categorical Grant: Underground Storage Tanks

Program Area: Categorical Grants

Goal: Cleaning Up Communities and Advancing Sustainable Development

Objective(s): Preserve Land

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	\$1,494.0	\$1,498.0	\$2,498.0	\$1,000.0
Total Budget Authority / Obligations	\$1,494.0	\$1,498.0	\$2,498.0	\$1,000.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The underground storage tanks (UST) State and Tribal Assistance Grant (STAG) program protects human health and the environment by ensuring releases from USTs are detected and prevented by providing states with grants to bring all UST systems into compliance with release detection and release prevention requirements. Preventing UST releases is more efficient and less costly than cleaning up releases after they occur. Since the beginning of the UST program, preventing UST releases has been one of the program's primary goals.

Even a small amount of petroleum released from an underground storage tank can contaminate groundwater, the drinking water source for many Americans. Over the history of the UST program, there have been over 528,000 releases confirmed and thousands of new releases are discovered each year, despite progress by the EPA and our partners in reducing the number of new releases. STAG funds meet a critical need in the UST program and fill a gap left by Leaking Underground Storage Tank (LUST) prevention assistance agreement funding. The Energy Policy Act of 2005 (EPAct) expanded the eligible use of LUST funds to include certain release prevention and leak detection activities, but it did not authorize LUST funds for all prevention and detection activities. STAG funds provide resources for states that do not have sufficient state resources to fund non-EPAct core programs. Specifically, states use these grants to fund such activities as: seeking state program approval to operate the UST program in lieu of the federal program; approving specific technologies to detect leaks from tanks; ensuring that tank owners and operators are complying with notification and other requirements; ensuring equipment compatibility; conducting inspections; and implementing operator training.

Over the duration of the program, the EPA found that lack of proper UST system operation and maintenance is a main cause of releases.^{35,36} As a result, in July 2015,³⁷ the EPA finalized the updated federal regulations for the UST program. The regulations give states three years to adopt the new federal regulations and to reapply for updated state program approval (SPA). States have been among the strongest advocates for the EPA to update the regulations. For the next few years,

³⁵ Petroleum Releases at Underground Storage Tank Facilities in Florida, Peer Review Draft, US EPA/OUST, March 2005.

³⁶ Evaluation of Releases from New and Upgraded Underground Storage Tanks, Peer Review Draft, US EPA/OUST, August 2004.

³⁷ For more information, see: <http://www.gpo.gov/fdsys/pkg/FR-2015-07-15/pdf/2015-15914.pdf>.

states will be working to adopt the federal regulations and put together applications for SPA. States will need to fund this work either with STAG funds or with their own state funds.

FY 2017 Activities and Performance Plan:

In FY 2017, STAG funding will continue to support compliance with release detection and release prevention requirements and for states to continue adopting and implementing the revised UST regulations. This work supports the EPA's cross-agency strategy: "Making a Visible Difference in Communities," by working with state, Tribal, and local partners to prevent releases from underground storage tanks and protect precious water resources for the people living and working near UST sites across the country.

Twice each year, the EPA collects data regarding UST performance measures and makes the data publicly available. The data include information such as the number of active and closed tanks, releases confirmed, cleanups initiated and completed, facilities in compliance with UST requirements, and inspections. The EPA compiles the data and presents it in table format for all states, territories, and Indian country.³⁸ End of year FY 2015 data show:

- 86.4 percent of all cumulative confirmed releases have reached cleanup completion;
- 72.6 percent of the approximately 204,000 federally regulated UST facilities were in significant operational compliance, exceeding the FY 2015 performance target of 70.5 percent; and
- Releases are continuing to occur, with 6,830 reported for FY 2015.

Since 2007, the EPA has placed an increased emphasis on ensuring compliance through increased frequency of inspections and other EPAct provisions.³⁹ Each of the nation's 566,000 federally regulated USTs must be inspected every three years.⁴⁰ During this time, compliance rates have increased and we have maintained low levels of newly confirmed releases.

Confirmed releases remain low due to significant release prevention efforts, such as frequent inspections. Continued rigorous prevention and detection activities are necessary to maintain our progress in limiting future confirmed releases. In FY 2017, the EPA requests to realign FY 2017 state grant resources from the LUST Prevention program to allow states to revise state regulations, apply for SPA, and adopt the new federal regulations that were promulgated in July 2015. This realignment is requested for a three year period and will not change the overall allocation of state LUST funding.

Performance Targets:

Work under this program supports performance results in the LUST Prevention program, under the LUST appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

³⁸ For more information, see <http://www.epa.gov/ust/ust-performance-measures>.

³⁹ For more information, see: <http://www.epa.gov/ust/energy-policy-act-2005-and-underground-storage-tanks-usts>.

⁴⁰ For more information, see <http://www.epa.gov/sites/production/files/2015-11/documents/ca-15-34.pdf>.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$1,000.0) This is a realignment of state grant resources to the UST STAG program from the LUST Prevention program for a three year period in order for states to revise state regulations, apply for SPA, and adopt the new federal regulations that were promulgated in July 2015. As the allocation for prevention purposes is a combination of LUST Prevention and UST STAG program funding, the overall allocation for each state would not change, only the eligible uses for those funds would be expanded to fit the need to meet compliance.

Statutory Authority:

Solid Waste Disposal Act of 1976, as amended by the Superfund Amendments and Reauthorization Act of 1986, § 2007(f); Energy Policy Act, § 9011.

Categorical Grant: Wetlands Program Development

Program Area: Categorical Grants

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	\$16,713.2	\$14,661.0	\$17,661.0	\$3,000.0
Total Budget Authority / Obligations	\$16,713.2	\$14,661.0	\$17,661.0	\$3,000.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Wetland Program Development Grants (WPDGs) assist states, tribes, and local governments in meeting the national goal of an overall increase in the acreage and improved condition of wetlands. The program's grants are used to develop new or refine existing state and Tribal wetland programs in one or more of the following areas: (1) monitoring and assessment; (2) voluntary restoration and protection; (3) regulatory programs, including Section 401 certification and Section 404 assumption;⁴¹ and (4) wetland water quality standards.

States and tribes develop program elements based on their goals and resources. Grants support development of state and Tribal wetland programs that further the goals of the Clean Water Act and improve water quality in watersheds throughout the country. Grants are awarded on a competitive basis under the authority of Section 104(b)(3) of the Clean Water Act. Funding is split among the EPA Regional Offices according to the number of states and territories per Regional Office. Each Regional Office is required, by regulation, to compete the award of these funds to states, tribes, local governments, interstate agencies, and inter-tribal consortia.⁴²

The goal of the WPDGs is to build or substantially increase state and Tribal program capacity for wetlands monitoring and assessment, water quality standards, and restoration and protection. The requested funds assist states, tribes, and local governments to build or refine their wetlands programs and support the Five-Star Restoration Challenge Grant program.

FY 2017 Activities and Performance Plan:

Strong state and Tribal wetland programs are an essential complement to the federal Clean Water Act Section 404 regulatory program and the WPDGs are the agency's primary resource for

⁴¹ State and Tribal assumption of Section 404 is an approach that can be useful in streamlining 404 permitting in coordination with other environmental and land use planning regulations. When states or tribes assume administration of the federal regulatory program, Section 404 permit applicants seek permits from the state or tribe rather than the federal government. States and tribes are in many cases located closer to the proposed activities and are often more familiar with local resources, issues, and needs. Even when a state assumes permitting under Section 404, the Corps of Engineers retains jurisdiction under Section 10 of the River and Harbors Act for permits regarding navigable waters.

⁴² For more information, see <http://www.epa.gov/owow/wetlands/initiative/#financial> and http://water.epa.gov/grants_funding/wetlands/estp.cfm.

supporting state and Tribal wetland program development. Resources will continue to assist states and tribes in strengthening wetland protection through documenting stresses or improvements to wetland condition, providing incentives for wetland restoration and protection, and developing regulatory controls to avoid, minimize, and compensate for wetland impacts. The EPA will continue to include wetland preservation as part of the WPDGs to encourage states to integrate wetland preservation into their green infrastructure efforts. Such efforts use natural hydrologic features to manage water and provide environmental and community benefits. In FY 2017, the EPA has requested an additional \$3 million for grants awarded competitively for efforts to increase climate resilience by protecting and enhancing coastal wetlands. Grant projects are complemented by technical assistance provided under the Enhancing State and Tribal Programs effort, as described in the Wetlands Protection Program.

Within the WPDGs, the EPA supports the Five-Star Restoration Program with other partners. Under this program, approximately 45 to 50 grants will be awarded to provide technical support and opportunities for information exchange to enable community-based restoration projects while bringing together students, conservation corps, other youth groups, citizen groups, corporations, landowners, and government agencies to provide environmental education and training through projects that restore wetlands, streams, and coasts. Results from this program will contribute to the EPA's measure that tracks wetland acres restored (established and re-established) and improved (enhanced and rehabilitated) through the EPA programs. Through the EPA's Five-Star Restoration program and other programs focused on wetlands, as of FY 2015, more than 275,000 acres have been restored and improved (since 2002).

Performance Targets:

Measure	(4E) In partnership with the U.S. Army Corps of Engineers, states, and tribes, achieve no net loss of wetlands each year under the Clean Water Act Section 404 regulatory program. ("No net loss" of wetlands is based on requirements for mitigation in CWA 404 permits and not the actual mitigation attained.)								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss	Acres
Actual	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss			

Measure	(4G) Number of acres restored and improved under the 5-Star, NEP, 319, and great water body programs (cumulative).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	110,000	150,000	170,000	190,000	220,000	230,000	290,000	305,000	Acres
Actual	130,000	154,000	180,000	207,000	221,000	275,555			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$3,000.0) This program change reflects an increase that will fund competitively-awarded projects to build state and Tribal program capacity to protect and restore coastal wetlands that provide vital ecological services, notably mitigating storm surge and providing carbon sequestrations. These capacity building projects will support an increase in the amount of coastal wetlands serving carbon sequestration functions and help reduce coastal flooding and erosion.

Statutory Authority:

Clean Water Act, § 104(b)(3).

Program Area: State and Tribal Assistance Grants (STAG)

Infrastructure Assistance: Clean Water SRF

Program Area: State and Tribal Assistance Grants (STAG)

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	<i>\$1,438,247.3</i>	<i>\$1,393,887.0</i>	<i>\$979,500.0</i>	<i>(\$414,387.0)</i>
Total Budget Authority / Obligations	\$1,438,247.3	\$1,393,887.0	\$979,500.0	(\$414,387.0)
Total Workyears	3.6	0.0	0.0	0.0

Program Project Description:

The Clean Water State Revolving Fund (CWSRF) program capitalizes state revolving loan funds in all 50 states and Puerto Rico that finance infrastructure improvements for public wastewater systems and projects to improve water quality. The CWSRF is the largest source of federal funds for states to provide loans and other forms of assistance for water quality projects including construction of wastewater treatments facilities, green infrastructure projects, agricultural best management practices (BMPs), and water and energy efficiency projects. This program also includes a provision for set-aside funding for tribes to address serious wastewater infrastructure needs and associated health impacts. It also provides direct grant funding for the District of Columbia and territories. This federal investment is designed to be used in concert with other sources of funds to address water quality needs.⁴³ Additional tools are available to assist small and disadvantaged communities. The CWSRF program is a key component in the EPA's efforts to promote sustainable infrastructure, helping achieve innovative solutions to wastewater infrastructure needs, achieving economic and environmental benefits that will continue to accrue for years in the future.

The revolving nature of the funds and substantial state contributions have greatly multiplied the federal investment. The EPA estimates that for every federal dollar contributed, more than two dollars have been provided to municipalities. As of June 2015, the CWSRF has offered 36,159 assistance agreements to eligible recipients, providing over \$111 billion in affordable financing for a wide variety of wastewater infrastructure and other water quality projects.⁴⁴ In the past year alone, approximately \$5.8 billion went to projects that are critical to the continuation of the public health and water quality gains throughout the nation.⁴⁵ The revolving nature of the funds and substantial state contributions have greatly multiplied the federal investment. The EPA estimates that for every federal dollar contributed, more than two dollars have been provided to municipalities. The CWSRF program measures and tracks the average national rate at which available funds are loaned, assuring that the fund expeditiously supports the EPA's water quality goals.

⁴³ See <http://www2.epa.gov/cwsrf> for more information.

⁴⁴ Clean Water State Revolving Fund National Information Management System. US EPA, Office of Water, National Information Management System Reports: Clean Water State Revolving Fund (CWSRF). Washington, DC (As of June 30, 2015).

⁴⁵ Clean Water State Revolving Fund National Information Management System. US EPA, Office of Water, National Information Management System Reports: Clean Water State Revolving Fund (CWSRF). Washington, DC (As of June 30, 2015).

FY 2017 Activities and Performance Plan:

The CWSRF has requested and received over \$43 billion over the life of the program. Included in this amount is the FY 2017 request of \$979.5 million. This federal investment, along with other traditional sources of financing will continue to enable progress toward the nation's clean water needs and sustainable infrastructure priorities and will contribute to the long-term environmental goal of attaining designated uses. The EPA continues to work with states to meet several key objectives, such as:

- Funding projects designed as part of an integrated watershed approach;
- Linking projects to environmental results;
- Targeting assistance to small and underserved communities with limited ability to repay loans;
- Ensuring the CWSRFs remain reliable sources of affordable funding; and
- Implementing the Water Resources Reform and Development Act (WRRDA) amendments to the CWSRF.

The ability to provide additional subsidization is an important tool in promoting the Administration's priorities of providing affordable funding for underserved and disadvantaged communities and encouraging sustainable wastewater infrastructure projects. The FY 2017 President's Budget requests that not less than 10 percent but not more than 20 percent of the total CWSRF monies made available to each state be used to provide additional subsidization to eligible recipients in the form of forgiveness of principal, negative interest loans, or grants (or any combination of these). The agency's request does not alter the subsidy provisions in WRRDA requiring that subsidy be used to either support affordability or to implement a process, material, technique, or technology that addresses water or energy efficiency goals; mitigates stormwater runoff; or encourages sustainable project planning, design, and construction.

In addition to capitalizing the CWSRF, a portion of the appropriation also will provide direct grants to communities within the tribes and territories. These communities are in great need of assistance given that their sanitation infrastructure lags behind the rest of the country causing significant public health concerns. To ensure that sufficient resources are directed toward these communities that face additional challenges, the EPA continues to request a tribal set-aside of two percent, or \$30 million, whichever is greatest, of the funds appropriated in FY 2017. The EPA also continues to request a territories set-aside of 1.5 percent of the funds appropriated from the CWSRF for American Samoa, Guam, the Commonwealth of Northern Marianas, and the United States Virgin Islands.

The EPA requests the ability to use a small portion of the tribal set-aside for training and technical assistance related to operation and management of treatment works similar to the provisions that already are available to Alaskan Native Villages. The EPA requests the ability to use the set-asides to support planning and design of treatment works and for the construction, repair, or replacement of privately owned decentralized wastewater treatment systems serving one or more principal residences or small commercial establishments, authority similar to that already available to states. Expanded support for planning and design will protect the federal investment in wastewater

infrastructure and ensure access to safe and sustainable wastewater treatment for tribes and territories that face significant challenges with sanitation infrastructure. The ability for both the tribes and territories to construct, repair, or replace decentralized wastewater treatment systems will allow the flexibility that these communities require to provide wastewater infrastructure that is appropriate for the communities' unique circumstances.

The EPA will actively support the Administration priority of promoting sustainability by continuing to implement its Clean Water and Drinking Water Infrastructure Sustainability Policy in FY 2017. The Sustainability Policy encourages a robust analysis of various infrastructure options, including green and decentralized approaches. In addition, the Sustainability Policy also calls for assisting utilities in implementing management strategies and rate structures that support the systems' necessary water infrastructure investments and operations and maintenance. As part of this effort, the EPA will continue to partner with states to ensure that the CWSRF continues to play an important role in promoting efficient system-wide planning; improvements in technical, financial and managerial capacity; and the design, construction and ongoing management of sustainable water infrastructure.

In coordination with the Sustainability Policy and to further encourage the use of green infrastructure to meet Clean Water Act Goals, the EPA also is requesting that not less than 20 percent of the capitalization grants based on funds appropriated in FY 2017 go to projects that address green infrastructure and environmentally innovative activities, provided there are sufficient applications. The resulting projects will enhance community and utility sustainability and resiliency by improving water quality while creating green space, mitigating flooding, and enhancing air quality. Dedicated funding through the Clean Water SRF will advance green infrastructure activities such as green roofs, rain gardens, and wetlands which can help cost-effectively meet Clean Water Act requirements and protect and restore the Nation's lakes and rivers.

In addition to the funding level of \$2 billion requested through the Clean Water and Drinking Water State Revolving Funds, over \$22 million is included through Drinking Water Programs and Surface Water Protection, for technical assistance, training, and other efforts to enhance the capacity of communities and states to plan and finance drinking water and wastewater infrastructure improvements. The EPA will work with states and communities to promote innovative practices that advance water system and community resiliency and sustainability. The SRFs also are complemented by \$20 million included in the new Water Infrastructure Finance and Innovation Act (WIFIA) program, through which EPA will make direct loans to regionally or nationally significant water infrastructure projects.

Performance Targets:

Measure	(L) Number of water body segments identified by states in 2002 as not attaining standards, where water quality standards are now fully attained (cumulative).								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	2,809	3,073	3,324	3,727	3,829	4,016	4,082	4,182	Segments
Actual	2,909	3,119	3,527	3,679	3,866	3,944			

Measure	(bbp) Fund utilization rate for the CWSRF.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	92	94.5	94.5	94.5	94.5	94.5	95	95	Dollars
Actual	100	98	98	97	98	98			

Fund utilization has remained relatively stable and strong (FY 2017 target of 95 percent). This national ratio is an aggregate of fund activity in the 51 individual CWSRF programs (50 states and Puerto Rico). Small year-to-year fluctuations in the value of the national ratio are expected and reflect annual funding decisions made by each state based on its assessment and subsequent prioritization of state water quality needs and the availability of financial resources.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$414,387.0) This program change reflects a reduction to the Clean Water State Revolving Fund and will result in approximately 170 fewer wastewater infrastructure projects.

Statutory Authority:

Title VI of the Clean Water Act; Title V of the Water Resources Reform and Development Act of 2014.

Infrastructure Assistance: Drinking Water SRF

Program Area: State and Tribal Assistance Grants (STAG)

Goal: Protecting America's Waters

Objective(s): Protect Human Health

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	\$907,052.9	\$863,233.0	\$1,020,500.0	\$157,267.0
Total Budget Authority / Obligations	\$907,052.9	\$863,233.0	\$1,020,500.0	\$157,267.0
Total Workyears	1.6	0.0	0.0	0.0

Program Project Description:

The EPA's Drinking Water State Revolving Fund (DWSRF) is designed to assist state public water systems in financing the costs of drinking water infrastructure improvements needed to achieve or maintain compliance with Safe Drinking Water Act (SDWA) requirements and to protect public health. Historically, DWSRF project disbursements have accounted for approximately 8 percent of total annual capital expenditures in drinking water. The 2011 Drinking Water Infrastructure Needs Survey and Assessment indicated a 20-year capital investment need of \$384.2 billion for public water systems that are eligible to receive funding from state DWSRF programs -- approximately 52,000 community water systems and 21,400 not-for-profit non-community water systems (including schools and churches).⁴⁶ These needs reflect costs for repairs and replacement of leaking transmission pipes, deteriorated storage and treatment equipment, and other projects required to protect public health and to ensure compliance with the SDWA.

To reduce public health risks and to help ensure safe and reliable delivery of drinking water nationwide, the EPA makes capitalization grants to states so that they can provide low-cost loans and other assistance to eligible public water systems and maintain robust drinking water protection programs. The program emphasizes that, in addition to maintaining the statutory focus on addressing the greatest public health risks first, states can utilize additional tools to assist small systems and most in need on a per household basis according to state affordability criteria. States also are encouraged to utilize additional tools to assist systems most in need. The DWSRF is a key component of the EPA's Sustainable Infrastructure Initiative. Given the prevalence of more frequent extreme weather events that directly threaten the ability of drinking water systems to deliver safe drinking water to the public, infrastructure resilience is a major part of the agency's sustainability approach. The DWSRF offers opportunities for water systems to incorporate sustainable features (e.g., energy efficiency, water loss mitigation, etc.) into infrastructure projects that protect public health.

The DWSRF program provides communities access to critical low-cost financing and offers a limited subsidy to help utilities address long-term needs associated with water infrastructure. Most DWSRF assistance is offered in the form of loans which water utilities repay from the revenues they generate through the rates they charge their customers for service. Our nation's water utilities

⁴⁶ http://water.epa.gov/grants_funding/dwsrf/upload/epa816r13006.pdf.

face the need to significantly increase the rate at which they invest in drinking water infrastructure repair and replacement to keep pace with their aging infrastructure, much of which is approaching the end of its useful life.

The responsibility for communities and public water systems to continuously provide safe drinking water is a key component of the nation's health and wellbeing. The delivery of safe drinking water is often taken for granted and is frequently undervalued, which presents considerable challenges to the completion of infrastructure upgrades that are necessary to protect public health. More than 156,000 public water systems provide drinking water to the approximately 320 million persons in the U.S. More than 97 percent of these public water systems serve fewer than 10,000 persons.⁴⁷ While most small systems consistently provide safe, reliable drinking water to their customers, many small systems are facing a number of significant challenges in their ability to achieve and maintain system sustainability. The EPA is emphasizing attention to the needs of these small communities/systems while retaining state flexibility in the management of their funds. The EPA continues its small systems focus by working closely with state programs to improve public water system sustainability and public health protection for persons served by small water systems.

These approaches have resulted in high system compliance; 90 percent of community water systems (CWSs) met all applicable health-based standards, achieving the FY 2015 target. However, many small systems face challenges with aging infrastructure, complying with regulatory requirements, workforce shortages/high-turnover, increasing costs, and declining rate bases. In FY 2015, small community water system violations made up 94 percent⁴⁸ of the overall violations from all size systems. In addition, while the 87 percent target was exceeded, only 88 percent of the Indian Country population received drinking water that met all applicable health-based standards.

State Set-Asides

States have considerable flexibility to tailor their DWSRF program to their unique circumstances. This flexibility ensures that each state has the opportunity to carefully and strategically consider how best to achieve the maximum public health protection. For example, states may set aside and award funds for targeted activities that can help them implement and expand their drinking water programs. The four DWSRF set-asides are: Small System Technical Assistance (up to 2 percent), Administrative and Technical Assistance (up to 4 percent), State Program Management (up to 10 percent), and Local Assistance and Other State Programs (up to 15 percent). Taken together, up to 31 percent of a state's DWSRF capitalization grant may be set aside for activities other than infrastructure construction. These set asides enable states to improve water system operation and management, emphasizing institutional capacity as a means of achieving sustainable water system operations. Historically, the states have set aside an annual average of 16 percent of the funds awarded to them for program development, of which 4 percent is used to administer the program; however over the past three years states have increased their set-asides taken to over 20 percent.

The federal investment is designed to be used in concert with other sources of funds to address drinking water infrastructure needs. States are required to provide a 20 percent match for their capitalization grant. Some states elect to leverage their capitalization grants through the public

⁴⁷ <http://water.epa.gov/scitech/datait/databases/drink/sdwisfed/pivottables.cfm>.

⁴⁸ <http://water.epa.gov/scitech/datait/databases/drink/sdwisfed/pivottables.cfm>.

debt markets to enable the state to provide more assistance. These features, coupled with the revolving fund design of the program, have enabled the states to provide assistance equal to 177 percent of the federal capitalization invested in the program since its inception in 1997. In other words, for every one dollar the federal government invests in this program, the states, in total, have been able to deliver \$1.77 in assistance to water systems. In addition, the DWSRF's rate of funds utilized (the cumulative dollar amount of loan agreements divided by cumulative funds available for projects) was 94 percent in 2015, exceeding its target of 89 percent.

National Set-Asides

Prior to allotting funds to the states, the EPA is required to reserve certain national level set-asides.⁴⁹ Two million dollars must, by statute, be allocated to small systems monitoring for unregulated contaminants to facilitate small water system compliance with the monitoring and reporting requirements of the Unregulated Contaminant Monitoring Regulation (UCMR). Historically, a three year sampling period occurs within each five-year monitoring cycle. During the sampling period, fund utilization exceeds the annual appropriation of \$2 million and the carry-over reserve funds from non-sampling years become essential to complete the small system monitoring efforts.

The EPA will reserve up to 2 percent, or \$20 million, whichever is greater, of appropriated funds for Indian tribes and Alaska Native Villages. These funds are awarded either directly to tribes or, on behalf of tribes, to the Indian Health Service through interagency agreements. The EPA will continue to set aside up to 1.5 percent for territories.⁵⁰

In addition, the law,⁵¹ requires that none of the funds made available by a state water pollution control revolving fund as authorized by Section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States. The law provides further that the Administrator may retain up to 0.25 percent of the funds appropriated in this Act for the Clean Water and Drinking Water State Revolving Funds for carrying out the provisions described in the law for management and oversight of the requirements of this section.

FY 2017 Activities and Performance Plan:

Within the \$2 billion funding level for the SRFs, in FY 2017, the EPA is requesting \$1.02 billion for the DWSRF, an increase of \$157 million above the FY 2016 enacted budget, to help finance critical infrastructure improvement projects to public drinking water systems. This increase reflects the high documented needs for drinking water infrastructure and the need to improve infrastructure in small communities and will help the programs reach more communities due to the revolving nature of the funds. The EPA will continue to foster its strong partnership with the U.S. Department of Agriculture (USDA) to augment coordination of technical and financial assistance and strongly encourage states to coordinate and partner with the USDA at local levels.

⁴⁹ Safe Drinking Water Act Sections 1452(i)(1), 1452(i)(2), 1452(j), and 1452(o), as amended

⁵⁰ For more information please see:

<https://www.cfda.gov/index?s=program&mode=form&tab=step1&id=d33d92f2df290e0c2365599cb09f0669>.

⁵¹ Consolidated and Further Continuing Appropriations Act, 2016, enacted December 16, 2015.

States and other stakeholders, in concert with the EPA, will continue to focus on rule compliance, operational efficiencies, and system sustainability to ensure clean and safe water. In FY 2017, the EPA will continue its effort to build the capacity of local utilities and existing state programs to expand their contribution to the array of funding options to meet future infrastructure needs. The requested funding for this program will support critical infrastructure investments to rebuild and enhance America's drinking water infrastructure.

In FY 2017, appropriated DWSRF funds again will be allocated to the states in accordance with each state's proportion of total drinking water infrastructure need based on the 2011 Drinking Water Infrastructure Needs Survey. The EPA also published data concerning the drinking water infrastructure needs of water systems serving tribes and Alaskan Native Villages as a special focus of this survey. As directed by the SDWA, the EPA uses the results of the survey to set the state DWSRF allocations every four years. Also, there is a statutory requirement that each state and the District of Columbia receive no less than one percent of the allotment. The EPA will be analyzing the results of the 2015 Drinking Water Infrastructure Needs Survey which will be reported in 2017 and applied to the allocation of the state DWSRF grants beginning in FY 2018.

The EPA will continue to work to target a significant portion of SRF assistance to small and underserved communities with limited ability to repay loans. In FY 2017, the EPA will work with states to ensure not less than 20 and not more than 30 percent of a state's capitalization grant is provided as additional subsidization. The EPA encourages states to utilize subsidization to assist disadvantaged communities and sustainability efforts.

As a result of the EPA's efforts to fully utilize DWSRF funds available, unliquidated obligations (ULO) decreased by approximately \$800 million from FY 2012 to FY 2015. In FY 2017, the EPA will continue to work with states with higher ULOs to address institutional obstacles in order to eliminate or minimize their ULO amounts.

In FY 2017, the DWSRF program will continue to implement the Clean Water and Drinking Water Infrastructure Sustainability Policy that focuses on promoting system-wide planning that helps align water infrastructure system goals; analyzing a range of infrastructure alternatives, including green alternatives; and ensuring that systems have the financial capacity and rate structures to construct, operate, maintain, and replace infrastructure over time. As part of that strategy, the EPA federal dollars provided through the State Revolving Funds also will act as a catalyst for efficient system-wide planning, improvements in technical, financial and managerial capacity; and the design, construction and ongoing management of sustainable water infrastructure.

In FY 2017, the EPA is continuing emphasis on strengthening small system technical, managerial and financial capability through the implementation of the Capacity Development Program, the Operator Certification Program, the Public Water System Supervision state grant program, and the Drinking Water State Revolving Fund. The Capacity Development Program establishes a framework within which states and water systems can work together to help these small systems achieve the SDWA's public health protection objectives. The state Capacity Development Programs are supported federally by the Public Water System Supervision state grant funds and the set-asides established in the Drinking Water State Revolving Fund. Since the 1996

Amendments, states have implemented a variety of activities to assist small systems with their compliance challenges and enhance their technical, managerial, and financial capacity.

In addition to the funding level of \$2 billion requested through the Clean Water and Drinking Water State Revolving Funds, over \$22 million is included through Drinking Water Programs and Surface Water Protection for technical assistance, training, and other efforts to enhance the capacity of communities and states to plan and finance drinking water and wastewater infrastructure improvements. The EPA will work with states and communities to promote innovative practices that advance water system and community resiliency and sustainability. The SRFs also are complemented by \$20 million included in the new Water Infrastructure Finance and Innovation Act (WIFIA) program, through which the EPA will make direct loans to regionally or nationally significant water infrastructure projects.

Performance Targets:

Measure	(aa) Percent of population served by CWSs that will receive drinking water that meets all applicable health-based drinking water standards through approaches including effective treatment and source water protection.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	90	91	91	92	92	92	92	92	Population
Actual	92	93.2	94.7	92	93	91			

Measure	(apc) Fund utilization rate for the DWSRF.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	86	89	89	89	89	89	89	89	Dollars
Actual	91.3	90	90	91	92	94			

Measure	(apm) Percent of community water systems that meets all applicable health-based standards through approaches including effective treatment and source water protection.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	90	90	90	90	90	90	90	90	Systems
Actual	89.6	90.7	91	91	91	90			

Measure	(pi1) Percent of population in each of the U.S. Pacific Island Territories (served by community water systems) that meets all applicable health-based drinking water standards, measured on a four-quarter rolling average basis.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	73	75	80	82	80	80	80	80	Population
Actual	82	87	80	81	98	97.7			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$157,267.0) This program change reflects an increase in resources available to the states and will result in funding approximately 71 more drinking water infrastructure projects.

Statutory Authority:

Safe Drinking Water Act, § 1452.

Infrastructure Assistance: Alaska Native Villages

Program Area: State and Tribal Assistance Grants (STAG)

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	\$9,821.9	\$20,000.0	\$17,000.0	(\$3,000.0)
Total Budget Authority / Obligations	\$9,821.9	\$20,000.0	\$17,000.0	(\$3,000.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Alaska Rural and Native Village (ANV) program reduces disease and health care costs by providing critical basic drinking water and sanitation infrastructure (i.e., flushing toilets and running water) in vulnerable rural and native Alaska communities that lack such services disproportionately when compared to the rest of the country. Despite the progress over the last two decades, in many of these at-risk communities five-gallon “honey buckets” and pit privies are the sole means of sewage collection and disposal. Alaskan rural and native water and sewer systems face not only the typical challenges associated with small system size, but also the challenging geographic conditions, such as permafrost, shortened construction seasons, and highly remote locations.

The EPA’s grant to the State of Alaska funds improvements and construction of drinking water and wastewater treatment facilities for these underserved communities. Investments in wastewater and drinking water infrastructure in rural Alaska and ANV communities contributed to an increase of access to water and sewer service from 60 percent in the late 1990s to a current level (FY 2015) of 94.6 percent of serviceable rural Alaska homes.⁵² Both water borne disease rates and health care costs have decreased through the reduction of exposure to raw sewage and drinking water contaminants.^{53,54} Reducing exposure to raw sewage and drinking water contaminants significantly contributes to reduced health care costs in native Alaskan communities, which are largely covered by the federal government (most recently authorized by the 2010 Indian Health Care Improvement Act).

The State of Alaska is best positioned to deliver these services to the ANV communities by coordinating across federal agencies and using the different programs to achieve a holistic series of solutions. Alaska uses a risk-based prioritization process to fund projects that will have the

⁵² Based on data from the Indian Health Service (IHS) and the State of Alaska.

⁵³ Robert C. Holman, Anianne M Folkema, Rosalyn J. Singleton, John T. Redd, Krista Y. Christensen, Claudia A Steiner, Lawrence B Schonberger, Thomas W. Hennessy, James E. Cheek (2011), *Disparities in Infectious Disease Hospitalizations for American Indian/Alaska Native People*, Public Health Rep. 2011 Jul-Aug; 126(4): 508–521, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3115210/>.

⁵⁴ Thomas W. Hennessy, Troy Ritter, Robert C. Holman, Dana L. Bruden, Krista L. Yorita, Lisa Bulkow, James E. Cheek, Rosalyn J. Singleton, Jeff Smith, *The Relationship Between In-Home Water Service and the Risk of Respiratory Tract, Skin, and Gastrointestinal Tract Infections Among Rural Alaska Natives*, Am J Public Health. 2008 November; 98(11): 2072–2078. doi: 10.2105/AJPH.2007.115618.

greatest public health and environmental benefit. The EPA ANV program, in addition to funding system upgrades and construction, also supports training, technical assistance, and educational programs to improve the financial management and operation and maintenance of sanitation systems. This ongoing support helps protect the federal investment in infrastructure in communities that often face significant economic challenges.

The ANV technical assistance program helps to improve the long term sustainability of the rural utilities, creating transferable job skills in construction, operation and maintenance activities. The program also has helped to nearly double the number of certified operators in Alaskan rural villages since FY 1992, and the number of non-compliant systems has decreased by close to 80 percent since FY 2006.⁵⁵

While the gains in the program have been significant, ANV communities continue to trail behind the non-tribal/non-native population in the U.S. with access to water and sanitation. In Alaska, 13 percent of native and rural households are without complete indoor plumbing, a much higher figure than the national average of 0.4 percent⁵⁶ of occupied homes that lacked complete indoor plumbing. As a result, 2008 data indicates that the age adjusted infectious disease hospitalization rate for Alaska natives was 28 percent higher than the national average, with a higher disparity observed for infants. Infectious disease hospitalizations account for approximately 22 percent of all tribal and ANV hospitalizations,⁵⁷ where lower respiratory tract infections, skin and soft tissue infections, and infections of the kidney, urinary tract, and bladder contribute to most of these health disparities.⁵⁸

The ANV program, in combination with other federal agencies, has shown significant progress (see chart below) documenting, since 2005, the number of ANV homes with access to and projects that have increased access to safe water and sanitation (in combination with other federal agencies). Over this period of time the ANV program contributed 35 percent (including the required state match) of all available funding from federal agencies.

⁵⁵ As reported by the State of Alaska, Department of Environmental Conservation, Remote Maintenance Worker program outcome reports.

⁵⁶ US Census Survey 2012.

⁵⁷ Robert C. Holman, Anianne M Folkema, Rosalyn J. Singleton, John T. Redd, Krista Y. Christensen, Claudia A Steiner, Lawrence B Schonberger, Thomas W. Hennessy, James E. Cheek (2011), *Disparities in Infectious Disease Hospitalizations for American Indian/Alaska Native People*, Public Health Rep. 2011 Jul-Aug; 126(4): 508–521, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3115210/>.

⁵⁸ Thomas W. Hennessy, Troy Ritter, Robert C. Holman, Dana L. Bruden, Krista L. Yorita, Lisa Bulkow, James E. Cheek, Rosalyn J. Singleton, and Jeff Smith. The Relationship Between In-Home Water Service and the Risk of Respiratory Tract, Skin, and Gastrointestinal Tract Infections Among Rural Alaska Natives. *American Journal of Public Health*: November 2008, Vol. 98, No. 11, pp. 2072-2078. doi: 10.2105/AJPH.2007.115618.

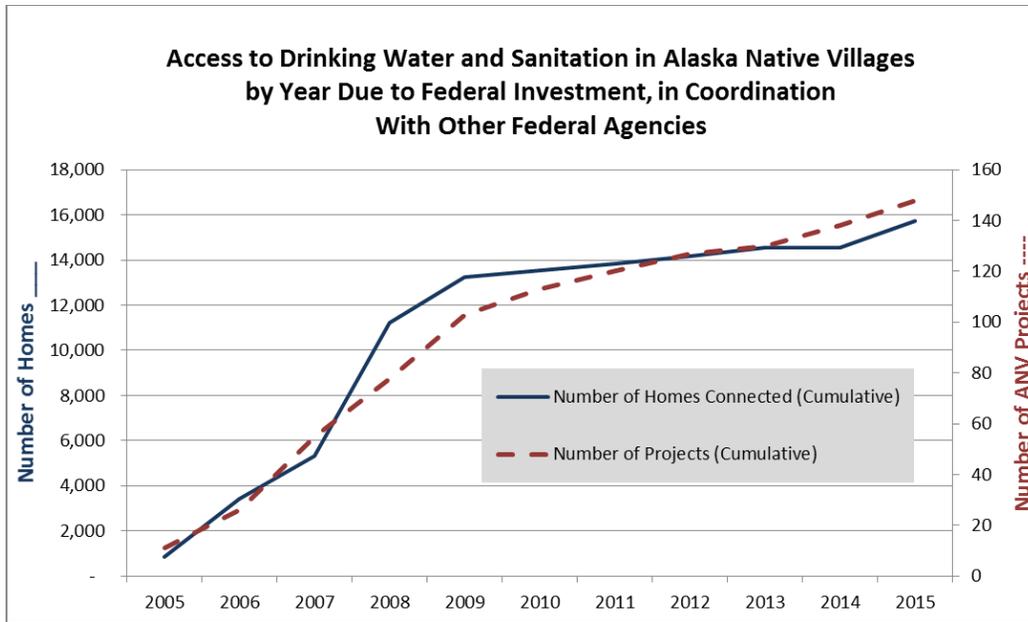


Figure 1: Chart data source: Indian Health Service Sanitation Tracking and Reporting System

FY 2017 Activities and Performance Plan:

The ANV program is administered by the State of Alaska and funds infrastructure development for ANV communities that lack access to drinking water and basic sanitation. The FY 2017 request of \$17 million will fund a portion of the need in rural Alaskan homes, including addressing the needs of youths in Alaskan Native Villages, and maintain the existing level of wastewater and drinking water infrastructure that meets public health standards, given increased regulatory requirements on drinking water systems and the rate of construction of new homes in rural Alaska. Additionally, the FY 2017 request will continue to support training, technical assistance, and educational programs that protect existing federal investments in infrastructure by improving operation and maintenance of the systems. Improved operation and maintenance improves system performance and extends the life of the asset.

In FY 2017, the agency will continue to work with the State of Alaska to address sanitation conditions and maximize the value of the federal investment in rural Alaska. The EPA will continue to implement the Alaska Rural and Native Village “Management Controls Policy,” adopted in June 2007, to ensure efficient use of funds by allocating them to projects that are ready to proceed or progressing satisfactorily. The agency has made great strides in implementing more focused and intensive oversight of the ANV grant program through cost analyses, post-award monitoring, and timely closeout of projects. The EPA also has collaborated with the State of Alaska to establish program goals and objectives that allow the ANV program to be better positioned to meet environmental and public health goals.

Ongoing Innovative Arctic Technologies Research and Development Effort

Many Alaska Native Villages cannot afford the high operation and maintenance costs associated with piped or haul systems. The monthly user cost for operating these systems is often more than

5 percent of the monthly household income in many villages - versus 1 to 2 percent in most urban US areas. In order to provide people in rural communities with adequate water for sanitation needs and to provide needed improvements in public health, the State of Alaska believes that a different approach to delivering these services is needed.

In FY 2012, the State of Alaska’s capital state budget included funds to investigate the development and use of innovative and cost effective technologies to deliver water and wastewater services in rural Alaska. In FY 2014, proposals were received from 18 different organizations of which the State of Alaska has entered into contracts with six to provide detailed proposals on alternative technologies. During FY 2015, the three most promising proposals were selected for laboratory testing and refinement. In FY 2016, the three proposals will be subjected to laboratory testing to simulate in home conditions. After this testing, in FY 2017, one or two proposals will be selected for field testing. All three proposals include greywater reuse within the homes. If proven sustainable, these innovative approaches will provide first time service at one third the capital cost of conventional arctic systems. Guidelines or regulations will be required to support this new approach to water reuse.

The state funds will be used to encourage and accelerate research and development of technologies that show promise for significantly reducing capital and operating costs associated with existing approaches. The ANV program will work in cooperation with the state in this effort in evaluating proposed alternative approaches, their feasibility, and potential impact on public health.

Performance Targets:

Measure	(Opb) Percent of serviceable rural Alaska homes with access to drinking water supply and wastewater disposal.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	98	92	93	93	93.5	92.5	93	93.5	Homes
Actual	92	92	91	91	94.4	94.6			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$3,000.0) This program change reflects a reduction in resources that will result in approximately 3 fewer funded projects toward addressing the drinking water and wastewater needs of Alaskan Native Villages.

Statutory Authority:

Safe Drinking Water Act Amendments of 1996, § 303; Clean Water Act, § 1263a.

Brownfields Projects

Program Area: State and Tribal Assistance Grants (STAG)
Goal: Cleaning Up Communities and Advancing Sustainable Development
Objective(s): Promote Sustainable and Livable Communities

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	\$88,086.1	\$80,000.0	\$90,000.0	\$10,000.0
Total Budget Authority / Obligations	\$88,086.1	\$80,000.0	\$90,000.0	\$10,000.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Brownfields program awards grants and provides technical assistance to help states, tribes, local communities, and other stakeholders involved in environmental revitalization and economic redevelopment to work together to plan, inventory, assess, safely cleanup, and reuse brownfields. Brownfield sites are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Brownfields redevelopment is a key to revitalizing downtown areas, neighborhoods, and rural communities, thereby increasing property values and creating jobs while at the same time addressing human health and environmental risks. Since its inception, the Brownfields program has fostered a unique, community-driven approach to reuse contaminated sites. The thousands of grants awarded by the program have led to a visible difference in communities across the country, where over 44,200 acres of idle land have been made ready for productive use and over 106,000 jobs and \$23.3 billion have been leveraged.

Under this program, the EPA will provide funding for: 1) assessment cooperative agreements and targeted Brownfields assessments performed under the EPA contracts and interagency agreements with federal partners; 2) cleanup cooperative agreements; 3) supplemental funding for existing, high-performing Revolving Loan Funds (RLFs); 4) environmental workforce development and job training cooperative agreements; 5) area-wide planning cooperative agreements and 6) financial assistance to localities, states, tribes, and non-profit organizations for research, training, and technical assistance for Brownfields-related activities.

Brownfields sites are in the heart of America’s downtowns and former economic centers. Reclaiming these vacant or underutilized properties and repurposing them is at the core of the EPA’s community revitalization efforts. In looking at census data, the EPA found that approximately 104 million people (roughly 33 percent of the U.S. population) live within 3 miles of a Brownfields site that received EPA funding, including 35 percent of all children in the U.S. under the age of five.⁵⁹ By awarding brownfields grants, the EPA is making investments in communities so that they can realize their visions for environmental health, economic growth, job creation and advancing social goals.

⁵⁹ U.S. EPA, Office of Solid Waste and Emergency Response Estimate. Data collected includes: (1) site information as of the end of FY 2013 from ACRES; and (2) census data from the 2009-2013 American Community Survey (ACS).

The EPA will continue to invest in some of the communities identified in the President’s Investing in Manufacturing Communities Partnership (IMCP) initiative. The EPA is involved in the IMCP initiative because many of these sites have past industrial uses, have access to a ready workforce that through training can participate in the cleanup, have redevelopment and end uses, and are located near established universities and research and development (R&D) centers. As further evidence of the success of this program, a 2015 study found that housing property values increased 5 percent to 11.5 percent near Brownfield sites when cleanup was completed.⁶⁰ Preliminary analysis of the data near 48 brownfield sites shows that an estimated \$29 to \$73 million in additional tax revenue was generated for local governments in a single year after cleanup. This is 2 to 6 times more than the \$9.8 million the EPA contributed to the cleanup of those brownfields. Based on historical data provided by the Assessment Cleanup and Redevelopment Exchanges System (ACRES) database, \$1 of the EPA’s Brownfields funding leverages between \$17 and \$18 in other public and private funding. Additionally, the EPA’s research has shown that redeveloping a brownfields site rather than a greenfield site has significant environmental benefits, including reducing vehicle miles traveled and related emissions by 32 to 57 percent, and reducing stormwater runoff by an estimated 47 to 62 percent.⁶¹ Revitalizing these once productive properties helps communities by: removing blight; improving environmental conditions; providing public health benefits; satisfying the growing demand for land; helping to limit urban sprawl; fostering ecologic habitat enhancements; enabling economic development; and, maintaining or improving quality of life.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will build on our current work to transform communities across the country by providing communities financial and technical assistance to assess, cleanup, and plan reuse at brownfield sites. The Brownfields program will continue to foster federal, state, Tribal, local, and public-private partnerships to return properties to productive economic use in communities. By removing uncertainty about a property’s contamination, brownfields funding can be a catalyst for additional investment to revitalize a community. The Brownfields program contributes to the Agency Priority Goal to clean up contaminated sites to enhance the livability and economic vitality of communities. As part of the Administration’s POWER+ initiative, the EPA will support communities to develop comprehensive strategies and area-wide plans to assess and clean up brownfields sites related to the coal economy. In calendar year 2016, the Brownfields program will make available area-wide planning funding to assist POWER+ communities as well as other communities in exploring new land use and economic development prospects. These grants will be awarded in FY 2017.

⁶⁰ Haninger, Kevin, Lala Ma, and Christopher Timmins. 2015. “The Value of Brownfield Remediation” National Bureau of Economic Research Working Paper No.20296. Posted July 2014, Revised September 2015, <http://www.nber.org/papers/w20296.pdf>.

⁶¹ U.S. Environmental Protection Agency Office of Solid Waste and Emergency Response Office of Brownfields and Land Revitalization, Washington, DC 20460, April 2011, EPA 560-F-10-232: <http://www.epa.gov/sites/production/files/2015-09/documents/bfenviroimpacts042811.pdf>.

This program will support the following activities in FY 2017:

- Funding will support at least 97 assessment cooperative agreements (estimated \$24.0 million) that recipients may use to inventory, assess, and conduct cleanup and reuse planning at brownfields sites, as authorized under CERCLA 104(k)(2). In FY 2017, the EPA expects to continue the Assessment Coalition option which allows three or more eligible entities to submit one grant proposal for up to \$600 thousand to assess sites within the assessment coalition members' areas. This level of assessment funding will lead to approximately 582 site assessments in the three years following the awards.
- The EPA will provide \$8 million for Targeted Brownfields Assessments (TBA) in up to 110 communities without access to other assessment resources or those that lack the capacity to manage a brownfields assessment grant. There is special emphasis for small and rural communities to submit requests for this funding to ensure equal access to brownfields assessment resources. These assessments will be performed through contracts and interagency agreements, as authorized by CERCLA 104(k)(2) and the terms of the EPA's appropriation act.
- Funding will support approximately 38 direct cleanup cooperative agreements (estimated \$7.5 million) to enable eligible entities to clean up recipient owned properties. The agency will award direct cleanup cooperative agreements of up to \$200 thousand per site to eligible entities and non-profits, as authorized under CERCLA 104(k)(3).
- The agency will provide \$14 million in supplemental Revolving Loan Fund (RLF) funding to existing high performing RLF recipients. The RLF Supplemental funding will lead to up to 56 awards. The RLF program enables eligible entities to make loans and subgrants for the cleanup of brownfield properties and encourages recipients to leverage other funds into their RLF pools to continue to operate a sustainable RLF program as authorized under CERCLA 104(k)(3) and CERCLA 104(k)(4). For RLF supplemental funding, the EPA will encourage recipients to consider options for enhancing the share of loans to sub-grants and increasing the rates at which RLFs are recapitalized. The EPA will not hold a new RLF grant competition in FY 2017 in order to ensure an adequate pool of funds for RLF Supplemental.
- Environmental Workforce Development and Job Training (EWDJT) cooperative agreements (estimated \$3.0 million) will provide funding for approximately 15 cooperative agreements of up to \$200 thousand each as authorized under CERCLA 104(k)(6). This funding will provide environmental job training for community residents to take advantage of new jobs created as a result of brownfield assessment, cleanup, and revitalization in their communities. The EWDJT program includes training in a wider array of environmental subjects which will lead to participants being able to be employed on brownfields, wastewater treatment facilities, emergency response activities, solid waste remediation, solar panel installation, pest management, chemical safety, recycling centers, and Superfund cleanup projects. The FY 2017 funding request will lead to approximately 735 people trained and 510 placed in jobs.

- Funding also will support assessment and cleanup of abandoned underground storage tanks (USTs) and other petroleum contamination found on brownfields properties (estimated \$22.5 million) for up to approximately 10 Targeted Brownfields Assessments and approximately 112 brownfields assessment, RLF and cleanup cooperative agreements, as authorized under CERCLA 104(k)(2) and CERCLA 104(k)(3). The Brownfields Law requires the program to select the highest ranking proposals. In order to award funding to the highest ranked proposals, the EPA requests the flexibility to use up to 25 percent of its CERCLA 104(k) funding to address petroleum contaminated sites versus an exact 25 percent identified by statute. The current 25 percent set-aside restricts the brownfields program from selecting higher-ranked applicants who requested hazardous substances funding. Replacing the 25 percent set-aside requirement with a 25 percent ceiling will provide the EPA with the flexibility to select the highest ranked projects, regardless of the type of money requested and therefore meet the demand of the communities applying for the various brownfields grants. For example, hazardous substances funding requests account for approximately 68 percent of all brownfields funding requests in the past three years, while the demand for petroleum funding hovers around 32 percent of brownfields funds requested.
- Funding also will support 20 area-wide planning grants (estimated \$4.0 million) to assist communities that are impacted by multiple brownfields sites explore new land use and economic development opportunities awarded under CERCLA Section 104(k)(6). In addition, as part of the Administration’s POWER+ initiative, up to \$5 million will be used to specifically support communities to develop comprehensive strategies and area-wide plans to assess and clean up brownfields sites related to the coal economy. Grant activities will cover planning assistance, coordination of enforcement, water and air quality programs, and work with other federal agencies, states, tribes, and local governments to target environmental improvements identified in each community’s area-wide plan.
- Funding also will support additional training, research, technical assistance cooperative agreements, interagency agreements, and contracts to support states, tribes and communities (estimated \$2.0 million), as authorized under CERCLA 104(k)(6);
- Conducting public education and outreach efforts to ensure that Tribal communities are informed and able to participate in environmental decision-making; and,
- All estimates of outputs and outcomes are supported by the data that is entered by cooperative agreement recipients via the ACRES database and analyzed by the EPA. Maintenance of ACRES, focus on the input of high quality data, and robust analysis regarding program outcomes and performance will continue to be a priority during FY 2017.

Performance Targets:

Measure	(B29) Brownfield properties assessed.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	1,000	1,000	1,200	1,200	1,200	1,300	1,400	1,400	Properties
Actual	1,326	1,784	1,444	1,528	1,659	1,320			

Measure	(B32) Number of properties cleaned up using Brownfields funding.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	60	60	120	120	120	120	130	130	Properties
Actual	109	130	120	122	132	150			

Measure	(B33) Acres of Brownfields properties made ready for reuse.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	1,000	1,000	3,000	3,000	3,000	4,000	5,500	5,500	Acres
Actual	3,627	6,667	3,314	4,644	6,389	7817			

Measure	(B34) Jobs leveraged from Brownfields activities.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	5,000	5,000	5,000	5,000	5,000	5,000	7,000	7,000	Jobs
Actual	5,177	6,447	5,593	10,141	12,376	11229			

Measure	(B37) Billions of dollars of cleanup and redevelopment funds leveraged at Brownfields sites.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	0.9	0.9	1.2	1.2	1.2	1.1	1.1	1.1	Dollars (Billions)
Actual	1.40	2.14	1.2	1.54	1.29	1.71			

Extensive analysis⁶² using ACRES data suggests a multi-year time lag in realizing performance outcomes. Recent performance results have exceeded the targets for properties assessed, acres made ready for reuse, and jobs leveraged. Since 2012, the program has placed an increased emphasis on ensuring grantee reporting is complete and accurate, resulting in higher than expected annual results for assessments and cleanups complete. Additionally, several brownfields-funded cleanups have resulted in large scale redevelopment projects leading to significant gains in jobs leveraged and acres ready for reuse. After carefully reviewing performance trends over the past four years, the program has set more aggressive annual performance targets in each of these areas. Specifically, performance targets for FY 2016 and FY 2017 have been set higher than FY 2015 targets for measures tracking assessments (from 1,300 to 1,400), properties cleaned up using brownfields funding (from 120 to 130), acres ready for reuse (from 4,000 to 5,500) and jobs leveraged (from 5,000 to 7,000).

The EPA's performance measures for the Brownfields program are strongly influenced by outputs and outcomes of assessment, cleanup, and RLF cooperative agreements. These outputs and outcomes depend on the maturity of each cooperative agreement, which usually has a performance period range of three to five years. For assessment and cleanup cooperative agreements, the performance period is three years, and five years for RLF cooperative agreements.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$10,000.0) This program change reflects an increase in resources that will provide funding to communities in environmental revitalization and economic redevelopment to work together to plan, assess, cleanup, and reuse brownfields. Specifically, the increased resources will support AWP grants as part of the Administration's POWER+ initiative,

⁶² For more information, visit: <http://www.epa.gov/brownfields/pdfs/Brownfields-Evaluation-Parts-I-II.pdf>.

additional direct assessment grants, Targeted Brownfield Assessments in communities without access to other assessment resources, and to support the assessment and cleanup of petroleum contaminated brownfields sites.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Small Business Liability Relief and Brownfields Revitalization Act, §§ 101, 104, 107.

Diesel Emissions Reduction Grant Program

Program Area: State and Tribal Assistance Grants (STAG)
Goal: Addressing Climate Change and Improving Air Quality
Objective(s): Improve Air Quality

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	\$36,139.1	\$50,000.0	\$10,000.0	(\$40,000.0)
Total Budget Authority / Obligations	\$36,139.1	\$50,000.0	\$10,000.0	(\$40,000.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Diesel Emissions Reduction Act (DERA) Grant Program has provided immediate, cost-effective emission reductions from existing diesel engines through engine retrofits, rebuilds, and replacements; switching to cleaner fuels; idling reduction; and other clean diesel strategies. The DERA program was initially authorized in Sections 791-797 of the Energy Policy Act of 2005 and reauthorized by the Diesel Emission Reduction Act of 2010.

From goods movement to building construction to public transportation, diesel engines are the modern-day workhorse of the American economy. Diesel engines are extremely efficient and power nearly every major piece of machinery and equipment on farms, construction sites, in ports, and on highways. As the agency's heavy-duty highway and nonroad diesel engines emissions standards came into effect in 2007 and 2008 respectively, new cleaner diesel engines started to enter the nation's fleet. However, today there are still more than 10 million engines in use that will continue to emit large amounts of nitrogen oxides and particulate matter. The EPA's DERA program promotes strategies to reduce these emissions and protect public health, by working with manufacturers, fleet operators, air quality professionals, environmental and community organizations, and state and local officials. While the DERA grants accelerate the pace at which dirty engines are retired or retrofitted, pollution emissions from the legacy fleet also will be reduced over time without additional DERA funding as portions of the fleet turnover and are replaced with new engines that meet modern emission standards. However, even with attrition through fleet turnover, the agency estimates that approximately one million old diesel engines would still remain in use in 2030.

Through FY 2013, the DERA program reduced the emissions of approximately 73,000 diesel vehicles, vessels or pieces of equipment, reducing NO_x by over 335,000 tons and PM by 14,700 tons. Over 457 million gallons of fuel were saved. Based on the EPA's experience to date, every \$1 million of DERA program grants/loans successfully leveraged as much as \$3 million in additional funding assistance. Retrofitting or replacing older diesel engines reduces particulate matter (PM) emissions up to 95 percent, smog-forming emissions, such as hydrocarbons (HC) and nitrogen oxide (NO_x), up to 90 percent, and greenhouse gases up to 20 percent in the upgraded vehicles with engine replacements. These projects have eliminated or will eliminate tens of thousands of tons of pollution from the air we breathe, and

are targeted in areas that are disproportionately impacted by diesel emissions. According to these same estimates, every \$1 spent retrofitting or replacing the oldest and most polluting diesel engines can lead to between \$5 and \$21 in health benefits, improving the health of our most vulnerable citizens.

FY 2017 Activities and Performance Plan:

As part of the President's 21st Century Clean Transportation Plan, the Administration is calling for major new investments in our nation's infrastructure, by accelerating the integration of autonomous vehicles, low-carbon technologies, and intelligent transportation systems that reduce climate emissions, increase safety, and improve transportation options for American families. The EPA will play a part in this Plan through a mandatory fund that will accelerate the transition to cleaner vehicle fleets, focusing on school bus upgrades that will reduce risks to and lead to improved children's health. The new account will provide \$1.65 billion over the course of 10 years and up to \$300 million in FY 2017 to renew and increase funding for the DERA Program.⁶³

The EPA also will continue to target its traditional discretionary funding to direct DERA grants and rebates to reduce diesel emissions in priority areas and areas of highly concentrated diesel pollution with a primary focus on ports and school buses. Discretionary funding will be split into two categories. The first category allocates funds to a rebate program that was first established under DERA's 2010 reauthorization. Through the rebate mechanism, the agency will more efficiently and precisely target the awards toward improving children's health and turning over the nation's school bus fleet. In addition, this rebate mechanism can be used to provide funding directly to private fleets. The second category would allocate funds toward national grants focusing on areas with poor air quality, especially those impacted most severely by ports and goods movement.

The EPA also will continue to track, assess, and report the results of the DERA grants, such as numbers of engines, emissions benefits, and cost-benefit information.⁶⁴ Finally, the EPA will continue to provide diesel emission reduction technology verification and evaluation and provide that information to the public.

Performance Targets:

Work under this program supports performance results in the Federal Vehicle and Fuels Standards and Certification program under the Science and Technology appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$40,000.0) This program change reflects a reduction to the overall amount of discretionary grant funding, while targeting spending on grants and rebates toward communities most impacted by harmful diesel emissions.

⁶³ The 21st Century Transportation Plan mandatory funding proposal is not included in the EPA's FY 2017 Congressional Justification budget tables.

⁶⁴ List of all awards under DERA can be found at <http://www.epa.gov/cleandiesel/highlights.htm>.

Statutory Authority:

Energy Policy Act of 2005, §§ 741, 791-797; Diesel Emissions Reduction Act of 2010.

Infrastructure Assistance: Mexico Border

Program Area: State and Tribal Assistance Grants (STAG)

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	\$7,232.1	\$10,000.0	\$5,000.0	(\$5,000.0)
Total Budget Authority / Obligations	\$7,232.1	\$10,000.0	\$5,000.0	(\$5,000.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The EPA works collaboratively with U.S. federal, state, and local partners and the Mexican water agency - CONAGUA - through the U.S.-Mexico Border Water Infrastructure Program to fund planning, design, and construction of high-priority water and wastewater treatment facilities for underserved communities along the border. Investments in wastewater and drinking water infrastructure in communities on both sides of the U.S.-Mexico Border reduce disease and health care costs because exposure to raw sewage and drinking water contaminants cause acute and chronic illnesses. The border region faces high poverty rates; three of the ten poorest counties in the United States are located in the border area and twenty-one of the border counties have been designated as economically distressed areas.⁶⁵ U.S.-Mexico Border Water Infrastructure projects stimulate local economies through public health-related economic gains, job creation, and increased demand for goods and services. The United Nations Development Program has estimated that every one dollar investment in the water sector creates eight dollars in costs averted and economic productivity gained.⁶⁶

Untreated sewage flowing north into the U.S. from Tijuana, Mexicali, and Nogales pollutes important water bodies like the Tijuana, New River, and Santa Cruz rivers. Untreated sewage also pollutes shared waters, such as the Rio Grande, Pacific Ocean, and the Gulf of Mexico. The close proximity and intermingling of border communities that have poor quality drinking water and sanitation poses a serious risk of disease transmission. The United States and Mexico share more than two thousand miles of common border. More than 14 million people live in the border area, approximately 7.3 million living in the United States.⁶⁷ Twenty-six U.S. federally recognized Native American tribes also are located in the U.S.-Mexico border region.

To date, the program has funded 115 projects. More than eight million people are benefiting from 101 completed projects, and more than half a million additional people are expected to benefit once all the projects that are funded for construction are completed. Since 2003, the program has

⁶⁵ U.S.-Mexico Border Health Commission, http://www.borderhealth.org/border_region.php.

⁶⁶ *United Nations Development Program, Beyond Scarcity: Power, Poverty and the Global Water Crisis, Human Development Report, 2006.*

⁶⁷ EPA/SEMARNAT, "State of the Border Region: Indicators Report", 1st edition, 2011.

provided approximately 65,600 homes with first time access to safe drinking water and more than 626,000 homes with first time access to wastewater collection/treatment.

The EPA's Border Water Infrastructure Program is unique among federal funding programs. It is the only federal program that can fund projects on both sides of the border, with all projects benefiting communities on the U.S. side of the border. Citizens of the United States benefit from all projects since all funded projects must demonstrate that they will provide a positive public health and/or environmental benefit to the United States, whether the project is located in the U.S. or Mexico. For example, a wastewater project in Mexico can only be funded if that sewage would otherwise contaminate a U.S. waterbody. Treating these waters after they have been contaminated and have crossed the border into the United States is neither technically feasible nor financially viable. The agency's investments in the Mexican side projects represent only a third of the total project construction costs, while leveraging two thirds of the remaining total costs from the Mexican government and other funding sources, and preventing contamination from raw sewage discharges in shared waters. The EPA's investment leverages Mexican funds for the benefit of the U.S. If not for the agency's investment, Mexican funds would likely be invested in other parts of Mexico that do not directly benefit the U.S. Preventing raw sewage discharges to shared water resources is especially critical in a region that is already facing water scarcity challenges.

The close bi-national cooperation in this program has improved public health and water quality. Improving access to clean and safe water is a key focus of the *Border 2020 Plan*, the bi-national agreement that guides efforts to improve environmental conditions in the U.S.-Mexico Border region.

The U.S.-Mexico Border Program is one of the few federal programs that assists communities in the planning and design of water and sanitation infrastructure projects. Planning and design is essential to advance projects to a construction ready stage, create sustainable communities and access public and private funding. Sixteen projects with construction costs of approximately \$1,076 million are currently in planning and design. More than 300,000 border residents will benefit once all these projects are complete.

U.S.-Mexico Border communities are looking to the EPA as a last-resort funding source when utilities, cities, or states are not able to fully finance needed infrastructure improvements. The program serves communities that often lack the debt capacity to apply for other funding sources, including the EPA's State Revolving Funds. The results of the EPA's last grant solicitation in FY 2011 exemplify the need to assist these communities. The FY 2011 request for proposals resulted in 200 applications with an estimated construction cost of \$800 million. Many communities on the prioritized list have not been able to advance their projects due to lack of funding. Approximately 46 of these communities with high priority public health risks are still waiting for planning and design and construction funding. Construction costs for those projects are estimated at \$208 million.

The EPA investments in these wastewater projects are protecting public health from waterborne diseases and have been a key factor in significant water quality improvements in U.S. waterbodies, such as the Rio Grande (Texas and New Mexico), Santa Cruz River (Arizona), New River (California), and Tijuana River and Pacific Ocean (California). In both the New River and the

middle Rio Grande, for example, fecal coliform levels have dropped by over 80 percent (as a result of jointly-funded wastewater treatment plants built in Mexicali and Ojinaga, Mexico, respectively). California beaches in the border region that were once closed throughout the year due to wastewater pollution from Mexico now remain open throughout the summer, resulting in decreased health risks to beachgoers and an economic benefit for local governments. The Santa Cruz River now supports a healthy fish population where a few years ago only bloodworms thrived.

FY 2017 Activities and Performance Plan:

In FY 2017, the U.S.-Mexico Border Water Infrastructure Program will continue to fund high-priority water and wastewater infrastructure projects. The FY 2017 request of \$5 million will fund a portion of the need in border communities. Projects that receive funding have been evaluated and ranked using a risk-based prioritization system, which enables the program to direct grant funding to projects that demonstrate human health benefits, cost-effectiveness, institutional capacity, and sustainability. The EPA coordinates at local, national, and bi-national levels to assess the environmental needs and make prioritized funding decisions. All program funding will be invested in projects that, whether located in the United States or Mexico, provide a positive public health and/or environmental benefit to the United States. U.S. benefits include improved quality of U.S. water bodies and shared waters and reduced health risk to the U.S. population. The demonstration of a U.S. benefit is one of the fundamental eligibility criteria for projects seeking program assistance.

The U.S.-Mexico Border Water Infrastructure Program will continue to work with the ten border states (four U.S. and six Mexican) and local communities to improve the region’s water quality and public health. The U.S. and Mexican governments will collaborate on water infrastructure projects to reduce health risks to residents, including sensitive populations of children and elders, many of whom currently lack access to safe drinking water and sanitation. Additionally, by providing homes with access to basic sanitation, the EPA and its partners will reduce the discharge of untreated wastewater into surface water and groundwater.

FY 2017 funding will be allocated to a portion of the construction of projects that have completed planning and design and are ready to move to construction. Final decisions on the use of FY 2017 funding will be based on balancing the construction needs of fully designed projects with the planning and design needs of prioritized projects.

Performance Targets:

Measure	(4pg) Loading of biochemical oxygen demand (BOD) removed (million pounds/year) from the U.S.-Mexico border area since 2003.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target		108.2	115	121.5	137.3	141.1	150.3	151.3	Million Pounds/Year
Actual		108.5	119	128.3	131	142.9			

Measure	(xb2) Number of additional homes provided safe drinking water in the U.S.-Mexico border area that lacked access to safe drinking water in 2003.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	28,434 (Cumulative)	54,130 (Cumulative)	1,000 (Annual)	3,000 (Annual)	1,700 (Annual)	600 (Annual)	500 (Annual)	20 (Annual)	Homes
Actual	52,130 (Cumulative)	54,734 (Cumulative)	5,185 (Annual)	3,400 (Annual)	1,468 (Annual)	878 (Annual)			

Measure	(xb3) Number of additional homes provided adequate wastewater sanitation in the U.S.-Mexico border area that lacked access to wastewater sanitation in 2003.								Units
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	246,175 (Cumulative)	461,125 (Cumulative)	10,500 (Annual)	27,000 (Annual)	39,500 (Annual)	40,750 (Annual)	53,000 (Annual)	6,100 (Annual)	Homes
Actual	254,125 (Cumulative)	513,041 (Cumulative)	31,092 (Annual)	25,695 (Annual)	12,756 (Annual)	44,070 (Annual)			

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$5,000.0) This program change reflects a reduction that will result in a decrease of funding for approximately 5 projects in planning, design, or construction.

Statutory Authority:

Treaty entitled “Agreement between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area, August 14, 1983”.

Targeted Airshed Grants

Program Area: State and Tribal Assistance Grants (STAG)
Goal: Addressing Climate Change and Improving Air Quality
Objective(s): Improve Air Quality

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>State and Tribal Assistance Grants</i>	<i>\$0.0</i>	<i>\$20,000.0</i>	<i>\$0.0</i>	<i>(\$20,000.0)</i>
Total Budget Authority / Obligations	\$0.0	\$20,000.0	\$0.0	(\$20,000.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

In FY 2016, this program requested applications for \$20 million in competitive grant funding to reduce air pollution in nonattainment areas that were ranked as the top five most polluted areas relative to annual ozone or PM_{2.5} National Ambient Air Quality Standards (NAAQS) as well as the top five areas relative to the 24-hour PM_{2.5} NAAQS based on the highest design values greater than 35 micrograms per cubic meter. This program assisted air control agencies in developing plans, conducting demonstrations, and implementing projects in order to reduce air pollution in these nonattainment areas.

FY 2017 Activities and Performance Plan:

There is no request for this program in FY 2017.

Performance Targets:

Currently, there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (-\$20,000.0) This program change reflects that the EPA is not requesting funds to support this program in FY 2017.

Statutory Authority:

P-L. 114-113.

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**APPROPRIATION: Water Infrastructure Finance and Innovation Fund
Resource Summary Table**

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Water Infrastructure Finance and Innovation Fund				
Budget Authority	\$0.0	\$0.0	\$20,000.0	\$20,000.0
Total Workyears	0.0	0.0	12.0	12.0

Bill Language: WIFIA

For the cost of direct loans and for the cost of guaranteed loans, as authorized by the Water Infrastructure Finance and Innovation Act of 2014, \$15,000,000, to remain available until expended: Provided, That such costs, including the cost of modifying such loans, shall be as defined in section 502 of the Congressional Budget Act of 1974. Provided further, That these funds are available to subsidize gross obligations for the principal amount of direct loans, including capitalized interest, and total loan principal, including capitalized interest, any part of which is to be guaranteed, not to exceed \$1,829,000,000. In addition, fees authorized to be collected pursuant to sections 5029 and 5030 of the Water Infrastructure Finance and Innovation Act of 2014 shall be deposited in this account to remain available until expended. In addition, for administrative expenses to carry out the direct and guaranteed loan programs, notwithstanding section 5033 of the Water Infrastructure Finance and Innovation Act of 2014, \$5,000,000, to remain available until September 30, 2018.

**Program Projects in WIFIA
(Dollars in Thousands)**

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Water Quality Protection				
Water Infrastructure Finance and Innovation	\$0.0	\$0.0	\$20,000.0	\$20,000.0
Subtotal, Water Infrastructure Finance and Innovation	\$0.0	\$0.0	\$20,000.0	\$20,000.0
TOTAL, EPA	\$0.0	\$0.0	\$20,000.0	\$20,000.0

Program Area: Water Quality Protection

Water Infrastructure Finance and Innovation

Program Area: Water Quality Protection

Goal: Protecting America's Waters

Objective(s): Protect and Restore Watersheds and Aquatic Ecosystems

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Water Infrastructure Finance and Innovation Fund</i>	<i>\$0.0</i>	<i>\$0.0</i>	<i>\$20,000.0</i>	<i>\$20,000.0</i>
Total Budget Authority / Obligations	\$0.0	\$0.0	\$20,000.0	\$20,000.0
Total Workyears	0.0	0.0	12.0	12.0

Program Project Description:

The nation is facing the challenge of finding sustainable financing for our aging water infrastructure. Dependable, available drinking water and sanitation in communities relies on working, modern infrastructure, but leaking water collection and distribution systems, and inadequate drinking water and wastewater treatment continue to plague municipalities across the country. To help address this priority, Congress enacted the Water Infrastructure Finance and Innovation Act of 2014 (WIFIA). WIFIA is a subtitle within the Water Resources Reform and Development Act of 2014 (WRRDA).¹

Eligible assistance recipients include corporations and partnerships, to municipal entities, to State Revolving Fund (SRF) programs. WIFIA will complement the existing SRF programs as an additional source of low-cost capital to help meet the United States' growing water infrastructure needs and address key priorities. Through direct loans, WIFIA will assist in making water infrastructure financing more affordable and encourage innovative financing.

The WIFIA program will accelerate investment in our nation's water and wastewater infrastructure by providing loans to credit worthy nationally and regionally significant water projects. Federal credit assistance may be in the form of a direct federal loan or a guarantee of a loan or other debt obligation funded by an outside lender. It is expected that entities with complex water and wastewater projects will be attracted to WIFIA and the EPA will work to provide assistance to a diverse set of projects.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will begin to fund WIFIA pilot projects. The FY 2017 request of \$20 million provides the necessary funds to finance WIFIA drinking water and wastewater infrastructure projects (following the requirements of the Federal Credit Reform Act of 1990 and OMB Circular A-129). Of the total request level, \$15 million in credit subsidy translates into a potential loan capacity of nearly \$1 billion to eligible entities for infrastructure projects with the initial loans taking place in FY 2017.

¹ WIFIA is a subtitle within the Water Resources Reform and Development Act of 2014 (WRRDA).

While WIFIA provides expansive project eligibilities, the EPA has identified the following priorities:

- Adaptation to extreme weather and climate change including enhanced infrastructure resiliency, water recycling and reuse, managed aquifer recovery;
- Enhanced energy efficiency of treatment works, public water systems, and conveyance systems, including innovative, energy efficient nutrient treatment;
- Green infrastructure; and
- Repair, rehabilitation, and replacement of infrastructure and conveyance systems.

Other project attributes will be emphasized in the project selection process including the extent of private financing, the ability to serve regions with significant water resource challenges, the regional or national significance, the likelihood that the project can proceed at an earlier date, and the extent to which the project uses new or innovative approaches.

Of the total \$20 million request to implement the WIFIA program, \$5 million is for the EPA's management and operation, including contract support and associated payroll for 12 FTE. The EPA headquarters will manage the WIFIA program. The request level represents the minimum federal staffing necessary to undertake the independent aspects of loan intake and origination, project technical evaluation, risk management, portfolio management and surveillance, and loan servicing. These funds associated with the management and operation of the program will be available for two-years. The FY 2017 President's Budget also requests authority to collect and use fee revenue as outlined in WRRDA, Sections 5029(a), 5030 (b), and 5030(c). However, the EPA does not plan to collect fees in FY 2017.

In FY 2016, the EPA will continue to conduct the significant work of developing a WIFIA program. The EPA will proposed a rule and establish guidance, policies and procedures, evaluation criteria, application processes, internal controls and governance, and other similar materials necessary to inform credit subsidy models. The EPA plans on using contract resources for additional specialized financial, legal, and engineering expertise to address potentially complex issues.

Performance Targets:

Work under this program supports the strategic objective Protect Human Health. Currently, there are no performance measures specific to this program.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$281.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$2,519.0 / +4.0 FTE) This program change reflects an increase associated with the management and operation of the WIFIA program.

- (+\$2,200.0 / +8.0 FTE) This realignment of resources for the new WIFIA account is for management and operation of the program. Resources have been realigned from the Surface Water Protection program.
- (+\$15,000.0) This program change reflects the beginning of funding for WIFIA water infrastructure projects in FY 2017. This request provides the necessary no-year appropriated funds for the EPA to finance WIFIA drinking water and wastewater projects.

Statutory Authority:

Water Resources Reform and Development Act of 2014, Title V, Subtitle C.

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**APPROPRIATION: Hazardous Waste Electronic Manifest System Fund
Resource Summary Table**

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Hazardous Waste Electronic Manifest System Fund				
Budget Authority	\$1,468.6	\$3,674.0	\$7,433.0	\$3,759.0
Total Workyears	7.2	7.9	7.9	0.0

Bill Language: E-Manifest

For necessary expenses to carry out section 3024 of the Solid Waste Disposal Act (42 U.S.C. 6939g), including the development, operation, maintenance, and upgrading of the hazardous waste electronic manifest system established by such section, \$7,433,000, to remain available until September 30, 2019.

**Program Projects in E-Manifest
(Dollars in Thousands)**

Program Project	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
Resource Conservation and Recovery Act (RCRA)				
RCRA: Waste Management	\$1,468.6	\$3,674.0	\$7,433.0	\$3,759.0
Subtotal, RCRA: Waste Management	\$1,468.6	\$3,674.0	\$7,433.0	\$3,759.0
TOTAL, EPA	\$1,468.6	\$3,674.0	\$7,433.0	\$3,759.0

Program Area: Resource Conservation and Recovery Act (RCRA)

RCRA: Waste Management

Program Area: Resource Conservation and Recovery Act (RCRA)
Goal: Cleaning Up Communities and Advancing Sustainable Development
Objective(s): Preserve Land

(Dollars in Thousands)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	FY 2017 Pres Bud v. FY 2016 Enacted
<i>Hazardous Waste Electronic Manifest System Fund</i>	<i>\$1,468.6</i>	<i>\$3,674.0</i>	<i>\$7,433.0</i>	<i>\$3,759.0</i>
Environmental Program & Management	\$58,355.7	\$59,098.0	\$62,842.0	\$3,744.0
Total Budget Authority / Obligations	\$59,824.3	\$62,772.0	\$70,275.0	\$7,503.0
Total Workyears	314.5	332.7	334.7	2.0

Program Project Description:

Under the Resource Conservation and Recovery Act (RCRA), companies shipping hazardous waste must track and report those shipments. Currently, tracking of the estimated five million forms is done through paper only systems, which creates a burden on companies and increases the potential for errors. The EPA estimates that, when fully implemented, the electronic manifest (e-Manifest) program will reduce the paper reporting burden for firms regulated under RCRA hazardous waste provisions by more than \$75 million annually.¹ The e-Manifest program will provide better knowledge of waste generation and final disposition; enhanced manifest inspection and enforcement; and greater transparency for the public about hazardous waste shipments.

On October 5, 2012, the President signed the Hazardous Waste Electronic Manifest Establishment Act (e-Manifest Act, Public Law 112-195), requiring the EPA to develop a hazardous waste electronic manifest system. The system will be designed to, among other functions, assemble and maintain the information contained in the estimated five million forms accompanying hazardous waste shipments across the United States. Prior to this legislation, this information only needed to be co-located with the hazardous waste shipment and then shared with any appropriate states. In FY 2013, the EPA initiated an effort to develop a program that provides for the submission of information electronically as well as in paper form. This investment at the federal level will significantly reduce the time and costs for regulated entities to submit, maintain, process, and publish data from hazardous waste manifests.

In FY 2014, Congress established a new appropriation, the "Hazardous Waste Electronic Manifest System Fund" to carry out the activities necessary to implement the e-Manifest program. The Fund covers all aspects of the e-Manifest program, including system development, rulemaking, and advisory committee establishment. Once this system is in place, the fees collected through the program will be used to fund the development and operation of the program.

¹ From a 2009 programmatic estimate, cited in *Hazardous Waste Management System; Modification of the Hazardous Waste Manifest System; Electronic Manifests; Final Rule*. 40 CFR § 260, 262, 263, 264, 265, and 271. <http://www.gpo.gov/fdsys/pkg/FR-2014-02-07/pdf/2014-01352.pdf>.

FY 2017 Activities and Performance Plan:

In FY 2017, the EPA will continue to develop the e-Manifest IT system. The agency is now implementing a modular approach to e-Manifest system development, utilizing agile software development methodologies. This approach allows faster, more efficient software development with an emphasis on meeting stakeholder needs. This includes continuous improvement, using iterative processes, and regular engagement with users and stakeholders throughout the process. The budget request includes an increase of \$3.4 million to enable the agency to achieve e-Manifest system deployment by spring 2018. The increased funding also will allow for carrying out e-Manifest Advisory Board meetings. In FY 2017, the EPA plans to perform the following key activities:

- Continue the development of the e-Manifest IT system, including rolling iterative software releases, and end to end testing;
- Complete the final User Fee rule, which will be published approximately 90 days before national system deployment (anticipated in FY 2018);
- Develop the appropriate accounting and financial reporting interfaces needed to collect and manage user fees; and
- Host at least one meeting of the e-Manifest Advisory Board, consisting of state and industry stakeholders and IT experts, to provide input on system development and on the final user fee regulation.

The above efforts build on the work completed in FY 2015 when the EPA established the e-Manifest Advisory Board, finalized the major aspects of the system's architecture, and developed the software for an initial e-Manifest system framework demonstration. In FY 2016, the agency will continue to build on this initial framework which will evolve into a minimum viable product (MVP)², continuing to engage often with users and stakeholders. The MVP facilitates a continuous development of avenues for quality data through the use of shared services and reference data management, such as providing initial data access and reporting tools to the user community, and allowing RCRA treatment, storage, and disposal facilities to upload manifest data and affix electronic signatures, while requiring an appropriate security infrastructure. Also in FY 2016, the EPA will award one or more major contract vehicles that will be used to complete system development, deploy the system nationally, and conduct follow-on operations, maintenance, and enhancements.

In FY 2017, the agency's e-Manifest activities will align with the E-Enterprise business strategy, an integral part of the agency's focus on launching a new era of state, local, Tribal, and international partnerships. E-Enterprise for the Environment is a transformative 21st century strategy – jointly governed by states and EPA – for modernizing government agencies' delivery of environmental protection. Under this program, the agency will streamline its business processes and systems to reduce reporting burden on states and regulated facilities, and improve the effectiveness and efficiency of regulatory programs for the EPA, states and tribes. The e-Manifest statute embodies several of the major elements of E-Enterprise principles i.e. increasing transparency, enabling two-way electronic business transactions, and reducing regulatory burden. Implementing this statute

² For more information, visit: http://www3.epa.gov/epawaste/hazard/transportation/manifest/pdf/e-man_webnr_dec_2015.pdf.

puts the e-Manifest project in the forefront of technical development for E-Enterprise in terms of business to business communications, and CROMERR compliant e-signatures.

Performance Targets:

Work under this program supports performance results in the RCRA Waste Management program under the EPM appropriation. These measures also can be found in the Eight-Year Performance Array in the Program Performance and Assessment Section.

FY 2017 Change from FY 2016 Enacted Budget (Dollars in Thousands):

- (+\$323.0) This change to fixed and other costs reflects the recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.
- (+\$3,436.0) This program change reflects an increase to award the contract in FY 2017 for development of the e-Manifest IT system. These funds will be pivotal in allowing the agency to achieve e-Manifest system deployment by spring 2018.

Statutory Authority:

Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act and the Hazardous Waste Electronic Manifest Establishment Act, 42 United States Code 6901 et seq. – Sections 3004, 3005, 3024, 8001.

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FY 2015 Annual Performance Report

EXECUTIVE OVERVIEW

EPA's *FY 2015 Annual Performance Report* (APR) presents the environmental and program performance results the Agency achieved in FY 2015 against the performance measures and targets established in its *FY 2015 Annual Performance Plan* and the *Congressional Justification*. In compliance with requirements of the Government Performance and Results Act Modernization Act of 2010 (GPRAMA) and Office of Management and Budget implementing guidance, EPA's FY 2015 APR discusses progress under the five goals and thirteen strategic objectives, as well as the four cross-agency strategies, established in its [FY 2014–2018 Strategic Plan](#). As illustrated in the performance management framework figure below, EPA analyzes these annual performance results, as well as progress toward its longer-term strategic objectives, as the basis for formulating and justifying Agency resource requests.

Organization of the FY 2015 APR

EPA's FY 2015 APR is integrated throughout the *FY 2017 Annual Performance Plan* and the *Congressional Justification*:

- The Introduction and Overview section presents EPA's mission statement and organizational structure;
- The Goal and Objective Overview section discusses FY 2015 performance results to help explain future directions; and
- Appropriation Program/Project Fact Sheets include FY 2015 performance results and trend data to provide context for budget decisions.

This Program Performance and Assessment section (Tab 12), including this Executive Overview, serves as the primary component of EPA's FY 2015 APR. It comprises a detailed eight-year data table, organized by strategic goal, which summarizes long-term progress toward each objective and presents performance results, including explanations for missed or exceeded targets, for each measure established in the Agency's *FY 2015 Annual Performance Plan*. Each strategic goal is introduced by a "Goal-at-a-Glance," which presents FY 2015 performance results and resource obligations under the goal. A summary of progress longer term under each of EPA's four cross-agency strategies, including links to FY 2015 End-Of-Year "At-A-Glance" Progress Reports, follows the eight-year table.

To supplement the *FY 2015 APR*, please refer to EPA's [FY 2015 Agency Financial Report](#) (AFR), which discusses EPA's FY 2015 financial performance, and its web-based [FY 2015 Highlights](#), which presents key financial and performance information from both the AFR and APR and provides links to additional information.

Performance Management in FY 2015

During FY 2015, EPA implemented a number of new efforts to further strengthen its performance management. Notable activities included:

EPA's Performance Management Framework



Completed All FY 2014-2015 Agency Priority Goals (APGs): In FY 2015, EPA accomplished all six of its FY 2014–2015 APGs. Some examples of key results include making more than 18,900 additional sites ready for anticipated use, completing more than 250 assessments of pesticides and other commercially available chemicals, and updating state nonpoint source management programs to comport with new grant guidelines. EPA also established five FY 2016-2017 APGs and drafted two-year action plans to advance its priorities. EPA reports progress on APG milestones and targets quarterly at <http://www.performance.gov>.

EPA also contributes to Cross-Agency Priority (CAP) goals across the federal government, notably for cybersecurity, benchmarking, infrastructure permitting, and people and culture. EPA's Acting Deputy Administrator discusses progress in these areas at monthly meetings of the President's Management Council. More information on CAP goals and quarterly updates on government-wide progress are available at <http://www.performance.gov>.

Streamlined End-of-Year Performance Reporting and Analysis Process: In June, EPA's Office of the Chief Financial Officer (OCFO) held an Agency-wide Lean event to streamline EPA's end-of-year reporting and analysis process and increase the value of performance analyses and products to inform Agency decision-making. Key outcomes included streamlined reporting to meet GPRAMA and OMB requirements, more effective use of 8-year performance results data as

a springboard for analysis and to support senior leadership end-of-year discussions, a streamlined *FY 2015 APR*, and enhancements to EPA's Web-based *Financial and Program Performance Highlights*.

National Program Manager (NPM) Guidance: In FY 2015, EPA published its new two-year FY 2016–2017 NPM Guidances, based on the recommendations of an NPM Guidance/National Environment Performance Partnership System (NEPPS) workgroup of state, regional, and national program representatives. The two-year process is part of the Agency's efforts to advance a new era of state, local, tribal, and international Partnerships, a cross-agency strategy established under the *FY 2014-2018 EPA Strategic Plan*. Key changes in the FY 2016–2017 NPM Guidance process included earlier and more meaningful state and tribal engagement in priority-setting, clear and transparent support for flexibility within the NPM Guidances, better alignment of NPM Guidances and grant guidances, and earlier and more meaningful state and tribal engagement in commitment-setting. EPA's OCFO and the NPM Guidance/NEPPS Workgroup are working collaboratively to implement and assess these key changes.

Strategic Foresight Pilot Project: EPA's OCFO and Office of the Science Advisor launched this project to set the stage for the Agency's next round of strategic planning and development of the *FY 2018–2022 EPA Strategic Plan*. The effort responds to National Academy of Science, Science Advisory Board, and National Advisory Council for Environmental Policy and Technology recommendations to anticipate future environmental problems and build EPA's resiliency in light of rapid technological change by engaging in futures analysis as a regular component of Agency operations. The pilot includes convening an Agency-wide Strategic Foresight Lookout Panel within a broader community of practice to identify emerging opportunities and challenges and develop actionable recommendations to inform annual and strategic planning.

Program Evaluation

Program evaluations help provide the evidence EPA needs to ensure that its programs are meeting their intended outcomes and allow the Agency to support more effective and efficient operations. By assessing how well a program is working and why, a program evaluation can help EPA identify activities that benefit human health and the environment, provide the roadmap needed to replicate successes, and identify areas needing improvement. This is particularly important for fostering transparency and accountability. Summaries of program evaluations completed during FY 2015 are available at <http://www.epa.gov/planandbudget/fy-2015-program-evaluations>.

FY 2015 Performance Data

In its *FY 2015 Annual Performance Plan* and the *Congressional Justification*, EPA committed to 180 annual performance measures/targets. These performance measures/targets and EPA's results are presented in the following eight-year table, which includes explanations for missed and significantly exceeded targets and describes the Agency's plans to meet these performance measures in the future. EPA reviews annual results in terms of long-term performance, and will carefully consider its FY 2015 results and adjust its program strategies and approaches accordingly.

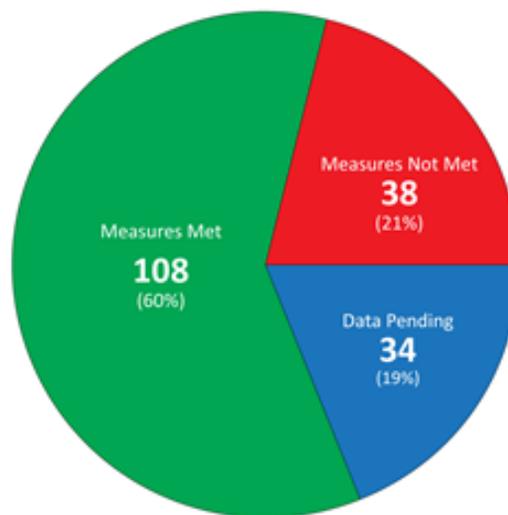
FY 2015 Performance Measure Results

As of December 31, 2015, data are available for 146 of the 180 FY 2015 budget performance measures/targets.¹ The Agency met 108 of the performance measures, 74 percent of the performance measures for which data are available. Working with state and local governments, tribes, federal agencies, businesses, and industry leaders, EPA made significant progress toward the long-term strategic goals and objectives established in its Strategic Plan.

Despite its best efforts, however, the Agency missed 38 of its FY 2015 performance measures/targets. There are a number of reasons for missed targets, including an unexpected demand for resources or competing priorities; the impact of a changing workforce; the effect of budget cuts on the Agency's state, tribal, and local government partners; and other factors. As an integral part of its performance management process, EPA will continue to regularly review its performance, analyze results, and adjust FY 2016 and FY 2017 programmatic approaches and targets as necessary.

Because final end-of-year data for some measures are not yet available, EPA is not able to report on 34 of its 180 performance measures. Often environmental results do not become apparent within a fiscal year, and assessment is a longer-term effort requiring information over time. Extensive quality assurance/quality control processes can also delay the reporting of performance data. EPA relies heavily on performance data obtained from state, tribal, and local agencies, all of which require time to collect and review for quality. Data lags may also result when reporting cycles do not correspond with the federal fiscal year on which this report is based, for example, data which are reported biennially. Additional FY 2015 results will be available in the Agency's FY 2016

EPA's FY 2015 Performance Results
(Total measures = 180)



¹ Of EPA's 180 FY 2015 performance measures, 26 measures fall under the Agency's enabling and support programs (including the Offices of Administration and Resources Management, Environmental Information, and Inspector General) and the Office of Research and Development. These measures are not reflected in the "Goal-at-a Glance" summaries which follow for each of EPA's five strategic goals.

APR, which will be included in the *FY 2018 Annual Performance Plan* and the “Program Performance and Assessment” section of the *FY 2018 Congressional Justification*.

Previous Fiscal Year Data Now Available

EPA can now report FY 2014 data that became available in FY 2015. In summary, final performance results became available for 20 of the 34 FY 2014 performance measures (out of a total 197 FY 2014 performance measures). Of these 20 performance measures, EPA met 16 and did not meet 4. Data remain unavailable for 12 measures.² Two measures were deleted.³

Summary of FY 2015 Performance Results

Strategic Goals

Goal 1: Addressing Climate Change and Improving Air Quality

FY 2015 Performance Measures		
Met: 11	Not Met: 0	Data Pending: 18
Total Measures: 29		

In FY 2015, EPA continued to address the changing climate and deployed programs to improve air quality. In support of the President’s Climate Action Plan (CAP), in 2015 EPA issued the historic Clean Power Plan, which will cut U.S. carbon pollution from the power sector by 32 percent below 2005 levels in 2030. As part of the CAP, EPA proposed standards to cut methane emissions from the oil and gas sector by 40 to 45 percent from 2012 levels by 2025, and issued two proposals to further reduce methane emissions from municipal solid waste landfills by nearly a third. EPA continued to successfully implement motor vehicle greenhouse gas emissions standards, achieving its FY 2014-15 Agency Priority Goal. Additionally, more than 19,000 organizations and millions of Americans partnered with EPA’s climate partnership programs, preventing more than 420 MMTCO_{2e} emissions. The U.S. continued to outperform its obligations

² Performance Measure G02: Million metric tons of carbon equivalent (MMTCO_{2E}) of greenhouse gas reductions in the buildings sector; Performance Measure G16: Million metric tons of carbon equivalent (MMTCO_{2E}) of greenhouse gas reductions in the industry sector; Performance Measure 001: Cumulative percentage reduction in tons of toxicity-weighted (for cancer risk) emissions of air toxics from 1993 baseline; Performance Measure R50: Percentage of existing homes with an operating radon mitigation system compared to the estimated number of homes at or above EPA’s 4pCi/L action level; Performance Measure 002; Cumulative percentage reduction in tons of toxicity-weighted (for non-cancer risk) emissions of air toxics from 1993 baseline; Performance Measure S01: Remaining US Consumption of hydrochlorofluorocarbons (HCFCs), chemicals that deplete the Earth’s protective ozone layer, measured in tons of Ozone Depleting Potential (ODP); Performance Measures SM1: Tons of materials and products offsetting use of virgin resources through sustainable materials management; Performance Measure FF1: Percent of Superfund federal facility sites construction complete; Performance Measure 008: Percent of children (aged 1-5 years) with blood lead levels (>5 ug/dl); Performance Measure 10D: Percent difference in the geometric mean blood level in low-income children 1-5 years old as compared to the geometric mean for non-low income children 1-5 years old; Performance Measure D6A: Reduction in concentration of PFOA in serum in the general population; Performance Measure 143: Percentage of agricultural acres treated with reduced-risk pesticides.

³ Performance Measure bpc: Percent of all major publicly owned treatment works (POTWs) that comply with their permitted wastewater discharge standards; Performance Measure 630: Five-year average annual loadings of soluble reactive phosphorous (metric tons per year) from tributaries draining targeted watersheds.

under the Montreal Protocol, holding HCFC consumption at more than 60 percent below required levels in 2014, and EPA finalized the 2015 HCFC allocation rule that will cut U.S. consumption by nearly 60 percent compared to 2014.

Working with its partners and co-regulators, EPA continued to develop and implement national programs that are reducing harmful air pollutants both indoors and outdoors. (Some results are subject to annual reporting delays.) From 2003 to 2014, for example, population-weighted ambient concentrations of PM2.5 (fine particulate matter) and ozone decreased 29 percent and 18 percent, respectively. However, due to resource constraints, EPA continues to face challenges in reviewing and revising standards as mandated by the Clean Air Act, leaving the Agency vulnerable to legal challenges. Looking ahead, EPA will continue to balance a significant air agenda to address climate change and improve air quality in order to deliver both environmental and public health protections.

Goal 2: Protecting America’s Waters

FY 2015 Performance Measures		
Met: 36	Not Met: 14	Data Pending: 5
Total Measures: 55		

The EPA’s water program continues to make good progress toward its two strategic objectives: protecting human health and improving water quality on a watershed basis. During FY 2015 the program stepped up its work with federal and state partners under the National Estuary Program (NEP) to protect and restore critical wetlands habitat, exceeding its FY 2015 target by protecting or restoring over 111,500 coastal acres and contributing to a cumulative total of 1.5 million acres protected or restored since 2002. In one example of restoration through the NEP, in FY 2015 [Tampa Bay](#) reached a “Seagrass” milestone of 40,295 acres of healthy sea grass beds, the largest area measured since the 1950s. Working with its partners, the EPA met the Agency Priority Goal of all states with Nonpoint Source Management Plans updated to adhere to new Section 319 state grant guidelines. The Agency is developing a new Water Quality Framework, which uses a standard geographic unit of analysis—“the NHDPlus catchment”—to report on and track environmental water quality improvements. It is hoped that the new strategy will streamline water quality assessment and reporting while providing a more complete picture of the nation’s water quality.

Despite the many successes of the NEP and EPA wetlands program efforts, land disturbance and nonpoint source pollution—especially nutrient and sediment runoff from land to waterbodies—remain critical challenges. Thirty-two percent of existing wetlands nationwide are in poor condition. Harmful algal blooms, a symptom of excess nutrients in water, still present a constant threat to drinking water. The EPA is addressing this challenge through new health advisories, technical assistance to drinking water utilities and laboratories, and improved analytical detection methods. For example, the Agency’s research on developing methods for measuring organic chemicals in drinking water has provided three sensitive, rugged, and specific analytical methods for measuring organic chemicals—including pesticides and cyanotoxins—on the Contaminant Candidate List at concentrations of human health concern. EPA can now use these methods in

developing future Unregulated Contaminant Monitoring Regulations to gather nationwide occurrence data.

Goal 3: Cleaning Up Communities and Advancing Sustainable Development

FY 2015 Performance Measures		
Met: 26	Not Met: 3	Data Unavailable: 3
Total Measures: 32		

EPA continues to make progress toward its land protection and restoration objectives. The Agency and its partners made 21,836 sites ready for anticipated use (RAU) in FY 2014-15, significantly exceeding its FY 2014-15 APG of 18,970 sites. This was primarily driven by the Underground Storage Tank Program exceeding its RAU target by 15 percent. EPA’s Superfund and RCRA Corrective Action cleanup programs met their performance targets but expect future challenges, since stagnated appropriations have caused delays in assessment, investigation, and design work that bring sites into the remedy construction stage. In addition, many of the remaining sites are more complex and subject to newly identified contaminants and more stringent cleanup standards for specific contaminants. The Brownfields Program continued to show progress, leveraging over 11,000 jobs and \$1.71 billion in FY 2015.

The Agency is meeting its performance targets for prevention of hazardous waste and petroleum releases. In FY 2015, EPA published two rules that will help sustain this progress: an update to the UST leak prevention and detection regulations and the “Definition of Solid Waste” rule, which added safeguards for recycling of hazardous materials and included a groundbreaking environmental justice analysis to address potential impacts on low-income and minority communities. The Agency continues to make progress implementing the Executive Order on Improving Chemical Facility Safety and Security, developing guidance and implementing training for local, state, and tribal emergency responders and developing standard operating procedures for regional response teams. However, this work, coupled with the limited resources, contributed to the Agency missing its FY 2015 target of 460 risk management program (RMP) inspections. EPA’s ability to maintain regular RMP inspections is limited to less than 4 percent of chemical facilities.

Strengthening environmental and health protection in Indian country continues to be an area of focus for improvement, as few tribes have sought federal environmental program implementation authorities due to understaffed tribal environmental departments. EPA worked with tribes to address one of the greatest challenges in FY 2015, that of implementing environmental and health programs in Indian Country, by finalizing 211 EPA-Tribal Environmental Plans through the end of the year and consulting with tribes on 75 regulations, permits and other policy issues.

Goal 4: Ensuring the Safety of Chemicals and Preventing Pollution

FY 2015 Performance Measures		
Met: 10	Not Met: 7	Data Unavailable: 6
Total Measures: 23		

Under its objective of “Ensuring the Safety of Chemicals,” EPA exceeded its APG target of 250 chemical assessments by completing assessments for 297 pesticides and other commercial/industrial chemicals in FY 2014-2015. The Agency completed a risk assessment for a fifth TSCA Work Plan Chemical—adding to the four completed in FY 2014. The Agency could not complete risk assessments for an additional seven chemicals due to insufficient data; however, it released a data needs assessment to acquire adequate data to complete the risk assessments. Assessments for three of the five chemicals completed in FY 2014 and FY 2015 identified risks, and EPA acted expeditiously in FY 2015 to respond to the risks identified. Soon after the assessments were completed, the Agency conducted workshops with stakeholders and the public to examine risk management options, and quickly commenced the process for exercising its authority under Section 6 of TSCA to prohibit/restrict specific uses of those chemicals (TCE, NMP and BPM). EPA also initiated assessments of additional chemicals in preparation for accelerated assessment completion targets in FY 2016 and FY 2017 (12 and 21, respectively). With respect to draft risk assessments for existing pesticides, EPA exceeded its goal by 15, resulting in 69 draft risk assessments being issued in 2015. As part of its strategy to achieve the 2022 statutory deadline, the Agency implemented process efficiencies, while also addressing endangered species and pollinator protection issues. EPA also made progress on endocrine disruptor screenings, completing 54 in FY 2015. Especially noteworthy was the Agency’s cross-office work to develop and implement new high throughput and computational models, which, starting in FY 2017, will allow nearly 20 times the current number of screenings to be performed while nearly eliminating animal testing in the estrogen screening phase. In the coming years, EPA’s Office of Research and Development plans to expand these models to screen for other endocrine related biological activity and potentially non-endocrine activity as well.

Under its objective to “promote pollution prevention,” EPA made significant progress in reducing hazardous materials, water usage, and greenhouse gases, as well as increasing company cost savings. A key accomplishment was the rebranding of the Design for the Environment program under a new “Safer Choice” label, designed to increase consumer awareness of and demand for products that are safer for families, pets and the environment. Recognition of products under the Safer Choice label and addition of chemicals to the Safer Chemical Ingredient List continued at the FY 2014 pace.

Goal 5: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

FY 2015 Performance Measures		
Met: 8	Not Met: 7	Data Unavailable: 0
Total Measures: 15		

By focusing its efforts on large cases that drive compliance across industries and have the highest impact on protecting public health and the environment, EPA made strong progress under its enforcement objective in FY 2015. The Agency obtained more than \$404 million in combined federal administrative, civil judicial penalties and criminal fines—more than double the penalties and fines assessed in FY 2014—and a criminal conviction rate of 92 percent. Based on EPA’s “tiering” methodology, the majority of the criminal cases (62 percent) were determined to have significant health, environmental, and deterrence impact. Several years of budget cuts, combined

with unpredictable year-to-year variance of the settlement process, affected some of the Agency's FY 2015 enforcement program results, contributing to missed targets for the number of cases initiated, pounds of pollutants reduced, and volume of contaminated soil cleaned up.

EPA's Superfund Enforcement program was able to secure the largest recovery for the cleanup of environmental contamination in U.S. history with the approval and payment of the \$4.4 billion settlement with the Kerr-McGee Corporation and related subsidiaries of the Anadarko Corporation. This settlement will help to cleanup 2,700 sites in 47 states. Of the environmental recovery in this settlement, nearly \$2 billion will pay for cleanup work associated with numerous EPA-lead sites, with the remainder flowing largely to states and tribes.

EPA continued to promote environmental justice (EJ) by targeting noncomplying facilities for their disproportionate impacts on low-income and minority communities. The Agency worked to include Supplemental Environmental Projects (SEPs) which directly benefit communities in settlement agreements, and SEPs more than doubled from FY 2014 (\$17M) to FY 2015 (\$39M). EPA also released EJSCREEN, a new tool for mapping demographic and enforcement data, and made considerable progress in finalizing its EJ2020 Action Plan. Looking forward, the Agency continues to implement Next Generation Compliance tools and strategies, such as electronically-submitted reports and advanced pollution monitoring, which will advance its enforcement activities and further safeguard public health and the environment.

Cross-Agency Strategies

Working Toward a Sustainable Future. EPA is making steady progress in promoting sustainability, working within the Agency and with federal and non-federal partners. EPA coordinated the Federal Green Challenge to reduce waste, water, and electricity usage, while cutting roughly \$42 million. EPA also collaborated with the Council on Environmental Quality (CEQ), Office of Management and Budget, Department of Energy, and General Services Administration to finalize Executive Order 13693 to cut federal greenhouse gas emissions. EPA produced a set of 30 videos, which show the many ways the Agency is incorporating sustainability into its daily work. EPA also issued updated guidance on purchasing environmentally preferable electronic equipment, helping to meet the federal acquisition 95 percent Green Products purchasing requirement. Working with seven federal agencies and CEQ, EPA developed the Green Infrastructure Collaborative to advance federal commitments to Green Infrastructure, and the Agency took actions to reduce food waste, diverting 375,000 tons of food from landfills. Similar efforts increased electronic waste collection by 7.5 percent among participants in the Electronics Challenge.

Working to Make a Visible Difference in Communities. During FY 2015 EPA progressed as planned toward the vision established in its *FY 2014-2018 EPA Strategic Plan* by focusing on four areas: target communities, the Community Resource Network, empowering communities, and tools. With the help of more than 200 local governmental and nongovernmental organizations, EPA's regional offices are implementing activities in 50 underserved communities to address their most pressing environmental needs—clean water, safe indoor environments, air pollution, and other focus areas. Working across programs and with shared funds, expertise, and data, EPA is collecting and disseminating stories from these local projects, along with a wide range of helpful

tools, databases, and peer contacts, on a single agency-wide Community Resource Network. EPA also finalized and launched a [single landing page for communities](#) on its public website, which includes one tool to help communities in their green infrastructure/stormwater management integrated planning. EPA incorporated Next Generation monitoring tools (such as air and water sensors) in 12 negotiated enforcement settlements (covering 9 regions) and in 12 discharge permits. Ultimately, EPA wants to empower community members to follow pollution trends in their own backyards and to help them interpret and use the data to spur action. The Agency is working to identify institutional mechanisms to solidify community and cross-agency work in additional program areas and opportunities for incorporating Next Generation advanced monitoring tools into negotiated settlements.

Launch a New Era of State, Tribal, Local, and International Partnerships. EPA continues to make progress in strengthening its partnerships with states, tribes, local governments, and the global community. To revitalize the National Environmental Performance Partnership System, EPA fully engaged with states in establishing national priorities as part of the new 2-year National Program Manager Guidance process, and increased support for flexibility to achieve them through Performance Partnership Agreements and Performance Partnership Grants. The Agency also worked with states to develop a management plan and selected five pilot projects to modernize and streamline environmental protection through E-Enterprise for the Environment. To strengthen environmental programs in Indian country, EPA launched a national consultation with tribal leaders on guidance addressing the importance and role that treaties play in the context of EPA decision-making. Additionally, the Agency conducted an unprecedented level of outreach with intergovernmental partners during development of key regulations such as the Clean Power Plan and the Waters of the U.S. Rule. A challenge for partnerships is the need to socialize and integrate improvements to the National Environmental Performance Partnership System and E-Enterprise priorities into the Agency's everyday business practices.

Embracing EPA as a High-Performing Organization. Embracing EPA as a High Performing Organization. During FY 2015 EPA made progress in continuing to improve as a high performing organization by focusing on fostering employee development and streamlining business practices. For the first time in over five years, EPA developed and implemented a Senior Executive Service (SES) Candidate Development Program (CDP), the Office of Personnel Management's preferred method for identifying and developing individuals for senior leadership. EPA typically faces 20-30 SES vacancies per year; under this CDP, EPA selected 26 outstanding candidates. The Agency continued to implement its successful Skills Marketplace program by selecting over 300 employees to work on projects part-time while remaining in their home offices. To help streamline business practices, this year EPA identified 36 priority projects to be supported by 38 Lean events. The Agency completed 27 of these Lean events in FY 2015 and expects to complete the remaining 11 in the first quarter of FY 2016. In FY 2016, EPA will focus Agency leadership in Lean implementation through rapid assessments of progress to date and by convening a Lean Action Board to advise the Administrator on how to remove barriers to successful replication and scale-up. EPA also faced challenges in FY 2015 related to timely completion of space planning and design and regional personnel moves and consolidations. Finally, EPA continued to develop its Agency-wide training platform, EPA-U. EPA's ability to fully build EPA-U system capabilities was delayed, pending procurement and implementation of a new Learning Management System by the Agency's service provider, the Department of Interior.



THE ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

Reliability of the U.S. Environmental Protection Agency's Performance Data

Data used to report performance results are reliable and as complete as possible. Because improvements in human health and the environment may not become immediately apparent, there might be delays between the actions we have taken and results we can measure. Additionally, we cannot provide results data for several of our performance measures for this reporting year. When possible, however, we have portrayed trend data to illustrate progress over time. We also report final performance results for previous years that became available in FY 2015.



Gina McCarthy
Administrator

FEB - 2 2016

Date

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PERFORMANCE: STRATEGIC GOALS AT A GLANCE AND EIGHT-YEAR ARRAY

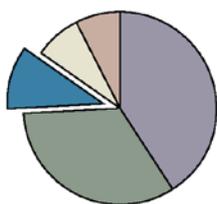
(The shaded boxes under Performance Measures and Data indicate that actual results are not yet available, or that a measure has been discontinued.)

Goal 1 at a Glance

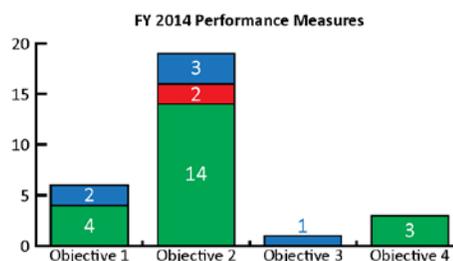
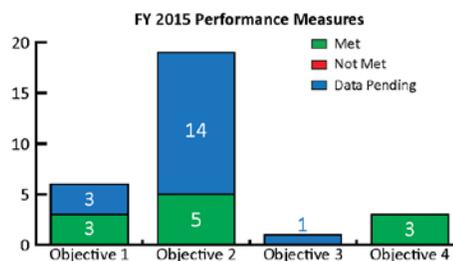
ADDRESSING CLIMATE CHANGE AND IMPROVING AIR QUALITY

Reduce greenhouse gas emissions and develop adaptation strategies to address climate change and protect and improve air quality.

FY 2015 Performance Measures
Met: 11 Not Met: 0 Data Unavailable: 18
 (Total Measures: 29)



- Taking Action on Climate Change and Improving Air Quality, \$1,076,803
- Protecting America's Waters, \$4,154,905
- Cleaning Up Communities and Advancing Sustainable Development, \$3,360,765
- Ensuring the Safety of Chemicals and Preventing Pollution, \$734,741
- Enforcing Environmental Laws, \$786,239



Strategic Objective Overview	FY 2015 Obligations*	% of Goal 1 Funds
Objective 1.1: Address Climate Change. EPA is developing common-sense GHG regulatory programs to curb emissions, working with state and local agencies to address sources of GHG emissions; building on its successful partnerships in such areas as the buildings, industry, and transportation sectors; and developing climate adaptation strategies to address the challenges of a changing climate.	\$199,860	18.6%
Objective 1.2: Improve Air Quality. EPA has acted to dramatically improve America's air quality by finalizing air quality standard, implementing health-based ambient air quality standards, proposing regulations to reduce particulate matter for new wood heaters, and proposing that communities neighboring refineries monitor emission are not being exposed to unintended emissions.	\$817,566	75.9%
Objective 1.3: Restore and Protect the Ozone Layer. EPA continues to make progress to restore and protect the ozone layer by reducing U.S. consumption of hydrochlorofluorocarbons (HCFCs)—chemicals that deplete the earth's protective ozone layers.	\$18,326	1.7%
Objective 1.4: Minimize Exposure to Radiation. EPA is on track to meet its strategic objective of minimizing exposure to radiation by maintaining readiness, both in personnel and assets, to support federal radiological emergency response and recovery operations by minimizing unnecessary exposures to radiation, including operating and maintaining RadNet, providing oversight at the Waste Isolation Pilot Plant, and developing important rules and guidance documents.	\$41,050	3.8%
Goal 1 Total	\$1,076,803	100.0%

*All figures in thousands

EPA Programs and Activities Contributing to Goal 1

- Acid Rain Program
- Air Toxics
- Clean Air Allowance Trading Programs
- Clean Air Research
- Indoor Air Quality and Radon Programs
- National Ambient Air Quality Standards Development and Implementation
- Mobile Sources
- New Source Performance Standards
- New Source Review
- Regional Haze
- Stratospheric Ozone Layer Protection Program
- Radiation Protection and Emergency Response Programs
- Climate Partnership Program

GOAL 1: ADDRESSING CLIMATE CHANGE AND IMPROVING AIR QUALITY

Reduce greenhouse gas emissions and develop adaptation strategies to address climate change, and protect and improve air quality

Objective 1 - Address Climate Change: Minimize the threats posed by climate change by reducing greenhouse gas emissions and taking actions that help to protect human health and help communities and ecosystems become more sustainable and resilient to the effects of climate change.

Summary of progress towards strategic objective:
 EPA continues to address the challenges of a changing climate and is on track to meet its strategic measures supporting this objective. The President’s June 2013 Climate Action Plan (CAP) outlines specific actions the U.S. will undertake to cut carbon pollution, prepare the country for the impacts of climate change, and lead international efforts to address climate change. On August 3, 2015, EPA finalized the Clean Power Plan, which will cut U.S. carbon pollution from the power sector by 870 million tons, or 32 percent below 2005 levels, in 2030. Power plants are the largest drivers of climate change in the United States, accounting for roughly one-third of all carbon pollution emissions, but there were no national limits on carbon pollution until the Clean Power Plan. EPA is also implementing motor vehicle greenhouse gas (GHG) emission standards that, in coordination with the fuel economy standards of the National Highway Transportation Safety Agency (NHTSA), will save American consumers about \$1.7 trillion, decrease the nation’s fuel consumption by approximately 12.5 billion barrels of oil and prevent 6.3 billion metric tons of GHG emissions over the lifetimes of affected vehicles sold through model year 2025. EPA’s partnership efforts are achieving real emission reductions; in 2013, EPA worked with the building, industry, and transportation sectors to avoid emissions of 694.8 million metric tons of CO2 equivalents. Despite this progress, U.S. GHG emissions have increased 6 percent from 1990 to 2013. While EPA and its partners (across industry, government, etc.) are taking action to address climate change, low carbon prices and resource constraints may limit the adoption of energy efficiency practices, investments in renewable energy, and other capital investments to reduce GHG emissions. EPA and its partners are making significant progress integrating climate adaptation planning into programs, policies, rules, and operations. The goal of these efforts is to ensure continued protection of human health and the environment even as the climate changes, and to empower states, tribes, and local communities to increase their resilience and prepare for the impacts of climate change.

Program Area	Performance Measures and Data
(1) Address Climate Change	<p>Strategic Measure: By 2018, additional programs from across EPA will promote practices to help Americans save energy and conserve resources, leading to expected greenhouse gas emissions reductions of 1,178.5 MMTCO2Eq. from a baseline without adoption of efficient practices. Building Programs 215.5 MMTCO2Eq., Industrial Programs 651.4 MMTCO2Eq., SmartWay Transportation Partnership 100 MMTCO2Eq., Pollution Prevention Programs 71 MMTCO2Eq., Sustainable Materials Management Programs 117.4 MMTCO2Eq., WaterSense Program 23 MMTCO2Eq., Executive Order 13514 GHG Reduction Program 0.21 MMTCO2Eq., This reduction compares to 621.08 MMTCO2Eq. reduced in 2011. Baseline FY 2011: Building Programs 189.0 MMTCO2Eq., Industrial Programs 357.9 MMTCO2Eq., SmartWay Transportation Partnership 27.9 MMTCO2Eq., Pollution Prevention Programs 17 MMTCO2Eq., Sustainable Materials Management Programs 22.1 MMTCO2Eq., WaterSense Program 7 MMTCO2Eq., Executive Order 13514 GHG Reduction Program 0.18 MMTCO2Eq.</p>

(PM G02) Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the buildings sector.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	143.0	156.9	168.7	182.6	196.2	188.0	201.1	210.4	MMTCO2e
Actual	163.5	189.0	221.9	254.2	Data Avail 4/2016	Data Avail 12/2016			
<i>Additional Information:</i> The reductions (from a baseline in 2004 of 89.5 million metric tons of carbon dioxide equivalent reduced) are the result of EPA ENERGY STAR®'s partnership, energy efficiency resources, outreach, and recognition across products, homes, buildings, and industrial plants. ENERGY STAR is a highly cost-effective program which helps Americans reduce GHG emissions while saving energy and money. The program is a trusted source for voluntary standards and unbiased information on energy efficient products and practices across the economy. With consumer awareness growing yearly, and now at about 90%, the benefits from ENERGY STAR products and buildings has tripled in the last 10 years.									
(PM G06) Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the transportation sector through EPA's SmartWay partnership program.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	15.4	23.7	28.0	33.0	61	70	76	82	MMTCO2e
Actual	17.3	27.9	38.9	51.6	61.7	72.8			
<i>Additional Information:</i> SmartWay's emissions reductions are estimated by comparing the emissions performance of trucks in SmartWay with modeled estimates of national truck emissions. The baseline in 2004 is 0.7 million metric tons of carbon dioxide equivalent reductions from the SmartWay program. From 2004 to 2014, EPA projected forward from the 2004 baseline assuming no impact on GHG emissions from U.S. climate change programs. Beginning in 2014, heavy-duty vehicles subject to the Phase 1 Greenhouse Gas rule are gradually penetrating the national fleet, raising the emissions performance of the national fleet, and reducing the difference between the emissions performance of SmartWay truck carrier partners and the national fleet. This is reflected in SmartWay's modeling, and is expected to reduce the emissions benefit of the trucking component of SmartWay over time. Trucking is only one component of SmartWay. Activities by SmartWay's rail, barge, and shipper partners also reduce the carbon footprint of goods movement and are not currently captured in these benefit estimates									
(PM G16) Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the industry sector.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	304.0	346.2	372.9	421.9	461.8	540.3	676	702.7	MMTCO2e
Actual	362.8	386.4	378.1	637.9	Data Avail 4/2016	Data Avail 12/2016			

Additional Information: The baseline in 2004 is 201 million metric tons of carbon dioxide equivalent reductions from ENERGY STAR for Industry, Clean Energy Programs, Non-CO2 Partnership Programs, Significant New Alternatives Policy (SNAP), and the Landfill Rule. Through EPA's voluntary and regulatory programs, the industrial sector is making cost-beneficial reductions in GHG emissions. Combined, energy, agriculture, waste, manufacturing and other industrial sectors generate more than a third of the nation's annual GHG emissions. Industrial sector emissions are produced either from a process itself, from the energy consumed during the process, or to produce electricity. For example, the transformation of raw materials from one state to another can result in the release of GHGs such as carbon dioxide (CO2) and methane (CH4). In addition, GHGs are often used in products or by end-consumers. These gases include industrial sources of man-made compounds such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6). GHG emissions reductions benefits from OAR's industrial sector programs continue to grow, exceeding programmatic targets each year. OAR only reports benefits from those programs that are still active in the reporting year.

(PM G18) Percentage of Annual Greenhouse Gas Emission Reports verified by EPA before publication.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target				93	95	95	95	95	Percent of Reports Verified
Actual				96	98	Data Avail 4/2016			

Additional Information: The Greenhouse Gas Reporting Program, established in 2009, has 41 sectors that include approximately 10,000 reporters. Both facilities and suppliers are required to report their data annually by the reporting deadline of March 31st. After submission of the data, the Agency conducts a verification review that lasts approximately 150 days. The data verification process includes a combination of electronic checks, staff review, and follow-up with facilities to identify potential reporting errors and have them corrected before publication. The 150-day period includes 60 days for the EPA to review reports and identify potential data quality issues, 75 days for reporters to resolve these issues, and 15 days for the EPA to review responses or resubmitted reports. EPA plans to publish all of the data through its online, interactive publication tool (www.epa.gov/ghgreporting) each year by October 1st.

Strategic Measure: By 2018, an additional 240 state, tribal, and community partners will integrate climate change data, models, information, and other decision support tools developed by EPA for climate change adaptation into their planning processes. (Baseline: 0.)

(PM AD1) Cumulative number of major scientific models and decision support tools used in implementing environmental management programs that integrate climate change science data.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			3	4	5	5			Major Models and Tools
Actual			3	4	7	8			

Additional Information: To ensure EPA's mission, EPA will build resilience to climate change by integrating considerations of climate data into major scientific models and decision support tools. Many of the outcomes EPA is working to attain are sensitive to climate, and every action EPA takes must be resilient to these fluctuations. The FY 2011 baseline is 0 major scientific models/decision support tools.

(PM AD4) Cumulative number of state, tribal, and community partners that have integrated climate change data, models, information, and other decision-support tools developed by EPA for climate change adaptation into their planning processes.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target							50	120	Number of Partners
Actual									

Additional Information: A key goal of EPA's work on climate adaptation is to build and strengthen the capacity of states, tribes, and local communities to anticipate, prepare, and adapt to a changing climate. A central element of this effort focuses on providing the tools, training, technical assistance, data, models, and other information they need to build their adaptive capacity. This is consistent with directives in Executive Order 13653 ("Preparing the United States for the Impacts of Climate Change"). This measure replaces measure AD1. The new measure is focused more on the actual use of EPA models and tools by states, tribes, and local communities. The FY 2015 baseline is zero state, tribal, and community partners.

Strategic Measure: By 2018, 240 state, tribal, and community partners will incorporate climate change adaptation into the implementation of their environmental programs supported by major EPA financial mechanisms (grants, loans, contracts, and technical assistance agreements). (Baseline: 5.)

(PM AD3) Cumulative number of major grant, loan, contract, or technical assistance agreement programs that integrate climate science data into climate sensitive projects that have an environmental outcome.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			1	2	3	3			Major Programs
Actual			3	5	7	8			

Additional Information: To ensure EPA's mission, EPA will build resilience to climate change by integrating considerations of climate data into grant, loan, contract, and technical assistance programs. Many of the outcomes EPA is working to attain are sensitive to climate, and every action EPA takes must be resilient to these fluctuations. The FY 2011 baseline is 0 programs

(PM AD5) Cumulative number of state, tribal, and community partners that have incorporated climate change adaptation into the implementation of their environmental programs supported by major EPA financial mechanisms (grants, loans, contracts, and technical assistance agreements).

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target							50	100	Number of Partners
Actual									

<p>Additional Information: A key goal of EPA's work on climate adaptation is to build and strengthen the capacity of states, tribes, and local communities to anticipate, prepare, and adapt to a changing climate. A central element of this effort focuses on supporting climate-resilient investments across the nation. This is consistent with directives in Executive Order 13653 ("Preparing the United States for the Impacts of Climate Change"). This measure replaces measure AD3. The new measure is focused more on the actual integration of adaptation into the implementation of environmental programs by states, tribes, and local communities. The FY 2015 baseline is zero state, tribal, and community partners.</p>									
<p>Strategic Measure: By 2018, 6 existing or new EPA-developed training programs will incorporate climate change adaptation planning for EPA staff, state, tribal, and community partners (includes programmatic and cross-programmatic trainings). (Baseline: 0.)</p>									
<p>(PM AD6) Cumulative number of EPA-developed training programs that incorporate climate change adaptation planning for EPA staff, state, tribal, and community partners (includes programmatic and cross-programmatic trainings).</p>									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target							3	4	Number
Actual									
<p>Additional Information: A key goal of EPA's work on climate adaptation is to build and strengthen the capacity of states, tribes, and local communities to anticipate, prepare, and adapt to a changing climate. A central element of this effort focuses on the provision of training to increase awareness of ways climate change may affect their ability to implement effective programs. This is consistent with directives in Executive Order 13653 ("Preparing the United States for the Impacts of Climate Change"). This measure addresses training programs for climate change adaptation planning, which is not covered in the current set of measures.</p>									

Objective 2 - Improve Air Quality: Achieve and maintain health- and welfare-based air pollution standards and reduce risk from toxic air pollutants and indoor air contaminants.

Summary of progress towards strategic objective:

EPA, together with its implementation partners, continues to improve air quality by designing, developing, and implementing national programs that are delivering significant reductions in harmful air pollutants. EPA's recent and previous actions are generating real environmental and public health benefits. Environmental indicators related to criteria pollutants and air toxics show improving outdoor air quality trends, and we continue to make progress in preventing lung cancer deaths from radon exposure and reducing adverse asthma health outcomes. From 2003 to 2014, population-weighted ambient concentrations of fine particulate matter and ozone have decreased 29 percent and 18 percent, respectively. EPA actions include setting health-based ambient air quality standards grounded in scientific research, setting fuel and engine standards that improve air quality in communities across the U.S. and developing regulations that will reduce emissions of harmful pollutants from sources that pose the greatest risk to communities. In FY 2015, EPA strengthened the ground-level ozone National Ambient Air Quality Standard (NAAQS) to 70 from 75 parts per billion, creating public health benefits estimated at \$2.9 to \$5.9 billion annually in 2025, and issued standards to further control toxic air emissions from petroleum refineries and requiring first-ever fence-line monitoring to protect nearby communities. Despite great progress in air quality improvement, approximately 57 million people nationwide lived in counties with pollution levels above the primary NAAQS in 2014.

Program Area	Performance Measures and Data									
(1) Reduce Criteria Pollutants and Regional Haze	Strategic Measure: By 2018, the population-weighted average concentrations of ozone (smog) in all monitored counties will decrease to 0.072 ppm compared to the average of 0.076 ppm in 2011, a reduction of 5 percent.									
	(PM M9) Cumulative percentage reduction in population-weighted ambient concentration of ozone in monitored counties from 2003 baseline.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	11	12	13	15	16	16	17	19	Percent Reduction
	Actual	15	16	13	15	18	Data Avail 12/2016			
	<i>Additional Information:</i> This measure shows progress in reducing ambient ozone concentrations with respect to the 2003 baseline (population-weighted national average of 0.090 ppm). Consistent with the National Ambient Air Quality Standard for ozone, it is based on a three-year average concentration. The measure assigns more weight to counties with more people by weighting each county's concentration by its population. The targets for this measure are based on predictions of future year concentrations resulting from the Community Multi-scale Air Quality model which estimates the impact of existing and future control strategies. The actuals are updated annually based on the actual monitored ozone concentrations.									
	(PM M92) Cumulative percentage reduction in the number of days with Air Quality Index (AQI) values over 100 since 2003, weighted by population and AQI value.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	33	37	50	80	80	80	81	83	Percent Reduction
	Actual	70	73	72	74	79	Data Avail 12/2016			
<i>Explanation of Results:</i> The FY 2014 target was missed given that meteorology plays a significant role in ozone formation and PM 2.5 emissions, making it challenging to estimate out year targets for this measure and to have the result align precisely. Moreover, ambient concentrations for ozone and PM 2.5 have been relatively stable over the past few years and actuals for this measure have followed suit. The Agency continues to make progress towards Goal 1 Strategic Objectives, and will continue to work with its regulatory partners to improve the results of this measure.										
<i>Additional Information:</i> This measure shows progress in reducing the number of "unhealthy" air quality days based on the Air Quality Index (AQI) relative to the 2003 baseline of zero percent reduction. The AQI is an index for reporting daily air quality. An AQI value of 100 generally corresponds to the National Ambient Air Quality Standard for each of the five pollutants included in the index. When AQI values are above 100, air quality is considered to be unhealthy for certain sensitive groups of people and then for everyone as AQI values get higher. This measure assigns more weight to higher AQI values and also assigns more weight to counties with more people. Because ozone and PM2.5 typically account for the vast majority of AQI values above 100, this measure largely tracks changes in those two pollutants.										

(PM MM9) Cumulative percentage reduction in the average number of days during the ozone season that the ozone standard is exceeded in non-attainment areas, weighted by population.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	26	29	45	50	50	50	68	70	Percent Reduction
Actual	56	58	54	59	67	Data Avail 12/2016			

Additional Information: This measure shows progress in reducing the number of exceedance days in the 1997 ozone nonattainment areas relative to the 2003 baseline. Consistent with the National Ambient Air Quality Standard for ozone, it is based on a three-year average. The measure assigns more weight to nonattainment areas with more people by weighting each nonattainment area's exceedance count by its population.

(PM O33) Cumulative millions of tons of Volatile Organic Compounds (VOCs) reduced since 2000 from mobile sources.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1.71	1.88	2.05	2.23	2.4	2.57	2.74	2.91	Tons Reduced
Actual	1.71	1.88	2.05	2.23	2.4	2.57			

Additional Information: Volatile organic compounds (VOCs) react in the atmosphere to form ozone and particulate matter, both of which are criteria pollutants for which EPA establishes National Ambient Air Quality Standards. In addition, some VOC species are air toxics (such as benzene) or react in the atmosphere to form air toxics. Reducing VOC emissions from mobile sources reduces the atmospheric concentrations and resulting health and environmental effects of these pollutants. EPA is reducing VOC emissions from mobile sources through its emissions standards promulgated since 2000, which apply to a wide range of mobile sources, including on-road cars and trucks, nonroad engines and equipment (such as lawn and garden equipment), locomotives, and marine engines. VOC emissions will continue to fall over time as the new, cleaner vehicles and engines enter the fleet. The baseline in 2000 for Volatile Organic Compounds emissions from mobile sources is 7.7 million tons. The 2000 Mobile6 inventory is used as the baseline for mobile source emissions.

(PM O34) Cumulative millions of tons of Nitrogen Oxides (NOx) reduced since 2000 from mobile sources.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	3.39	3.73	4.07	4.41	4.74	5.08	5.42	5.76	Tons Reduced
Actual	3.38	3.73	4.07	4.41	4.74	5.08			

Additional Information: Nitrogen oxides (NOx) react in the atmosphere to form ozone, particulate matter, and NO2, all of which are criteria pollutants for which EPA establishes National Ambient Air Quality Standards. Reducing NOx emissions from mobile sources reduces the atmospheric concentrations and resulting health and environmental effects of these pollutants, as well as, the ecosystem effects associated with nitrogen deposition to water bodies. EPA is reducing NOx emissions from mobile sources through its emissions standards promulgated since 2000, which apply to a wide range of mobile sources, including on-road cars and trucks, nonroad engines and equipment (such as construction, farming, and lawn and garden equipment), locomotives, aircraft, and marine vessels. NOx emissions will continue to fall over time as the new, cleaner vehicles and engines enter the fleet. The baseline in 2000 for Nitrogen Oxide emissions from mobile sources is 11.8 million tons. The 2000 Mobile6 inventory is used as the baseline for mobile source emissions.

Strategic Measure: By 2018, the population-weighted average concentrations of inhalable fine particles in all monitored counties will decrease to 9.5 µg/m³ compared to the average of 10.4 µg/m³ in 2011, a reduction of 9 percent.

(PM M91) Cumulative percentage reduction in population-weighted ambient concentration of fine particulate matter (PM-2.5) in all monitored counties from 2003 baseline.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	6	15	16	20	28	29	31	32	Percent Reduction
Actual	23	26	26	29	29	Data Avail 12/2016			

Additional Information: This measure shows progress in reducing ambient PM2.5 concentrations with respect to the 2003 baseline (population-weighted national average of 14.1 ug/m3). Consistent with the National Ambient Air Quality Standard for PM2.5, it is based on a three-year average concentration. The measure assigns more weight to counties with more people by weighting each county's concentration by its population. The targets for this measure are based on predictions of future year concentrations resulting from the Community Multi-scale Air Quality model which estimates the impact of existing and future control strategies. The actuals are updated annually based on the actual monitored concentrations.

(PM P34) Cumulative tons of PM-2.5 reduced since 2000 from mobile sources.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	122,434	136,677	146,921	159,164	171,407	183,651	195,895	208,138	Tons Reduced
Actual	122,434	136,677	146,921	159,164	171,407	183,651			

Additional Information: Reducing emissions of PM-2.5 results in decreases in atmospheric concentrations of inhalable fine particles, which in turn lowers the risk of premature mortality, hospital admissions for heart and lung disease, and respiratory symptoms. EPA is reducing PM-2.5 emissions from mobile sources through its emissions standards promulgated since 2000, which apply to a wide range of mobile sources, including on-road cars and trucks, nonroad engines and equipment (such as construction and farming equipment), locomotives, and marine vessels. PM-2.5 emissions will continue to fall over time as the new, cleaner vehicles and engines enter the fleet. The baseline for 2000 for PM-2.5 emissions from mobile sources is 510,550 tons. The 2000 Mobile6 inventory is used as the baseline for mobile source emissions.

Strategic Measure: Through 2018, maintain emissions of sulfur dioxide (SO2) from electric power generation sources to 5.0 million tons per year compared to the 2009 level of 5.7 million tons emitted. (In 2011, these sources emitted 4.5 million tons.) (Rationale for baseline year: 2009 is the year immediately preceding the first year of SO2 compliance under the Clean Air Interstate Rule [CAIR] and full implementation of Acid Rain's permanent cap on utility SO2 emissions.)

(PM A01) Annual emissions of sulfur dioxide (SO2) from electric power generation sources.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	8,450,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	5,000,000	5,000,000	Tons Emitted
Actual	5,166,000	4,544,000	3,319,000	3,210,365	3,122,921	Data Avail 4/2016			

Additional Information: The baseline in 1980 is 17.4 million tons of SO2 emissions from electric utility sources. This inventory was developed by the National Acid Precipitation Assessment Program (NAPAP) and is used as the basis for reduction in Title IV of the 1990 Clean Air Act Amendments (CAAA). Statutory SO2 emissions capped in 2010 at 8.95 million tons, approximately 8.5 million tons below 1980 emissions level. Targets for this measure through 2010 were based on implementation of the nationwide Acid Rain Program alone whereas the (lower) target of 6 million tons for 2011-2015 recognized implementation of the CAIR Programs in eastern states in combination with the Acid Rain Program (ARP). The updated 2016 and 2017 targets are based on the ARP and newly established SO2 budgets under the Cross State Air Pollution Rule (CSAPR) which began implementation in January 2015. The FY 2016 and FY 2017 targets incorporate the following assumptions: 1) CSAPR states emit at the full assurance provision level allowed under the rule; 2) sources in non-CSAPR states would continue to emit at historical levels; 3) potential use of banked ARP allowances; and, 4) uncertainty regarding future impact of market forces on the use of coal and natural gas in power generation. Actual performance has consistently been lower than the target due to a number of factors including: 1) the economics of power sector fuel prices currently favor natural gas over coal; 2) electricity generation fell starting in 2007 and has been relatively flat in recent years, but is expected to grow over time; and 3) some implementation strategies that are currently being used to comply with other environmental regulations also reduce SO2 emissions.

(PM MM6) Total number of backlogged SIPs remaining.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target				No Target	No Target	No Target	300-400	100-200	Number of Backlogged SIPs
Actual				699	649	557			

Explanation of Results: At the end of FY 2015, EPA had 557 backlogged SIPs remaining to be acted on. In FY 2015, EPA took action on 536 SIPs. 298 of these actions were on backlogged SIPs and 238 actions were on non-backlogged SIPs. The total number of active SIPs is trending down (22.5% decrease since 10/1/2013) and EPA is receiving fewer incoming SIPs than in the past.

Additional Information: The Clean Air Act requires states to develop a general plan to attain and maintain the National Ambient Air Quality Standards (NAAQS) in all areas of the country and a specific plan to attain the standards for each area designated nonattainment for a NAAQS. These plans, known as State Implementation Plans or SIPs, are developed by state and local air quality management agencies and submitted to EPA for approval. SIPs vary in their complexity with more complex SIPs requiring more effort from EPA to act on them. Each year EPA identifies the baseline of total active SIPs, current and backlogged, and considers a range of anticipated incoming SIPs for that year. EPA then estimates the total number of SIP actions it will take in the upcoming year. The SIP baseline changes year to year depending on actions taken in the prior year. The estimated number of actions will also vary year to year depending on the status of rulemakings, state priorities for which SIPs they want acted on, and potential new SIPs or SIP revisions. Targets are presented as a range to reflect this variability. For more information on SIPs, see <http://www.epa.gov/airquality/urbanair/sipstatus/overview.html>.

(PM MM7) Cumulative Percent of State Implementation Plans (SIPs) removed from the historical backlog.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target				0	20	40	60	84	Cumulative Percentage Removed
Actual				0	25	48			
<p><i>Explanation of Results:</i> As of October 1, 2015, there are currently 365 SIPs remaining in the historical backlog. The agency expects that by 2017, the historical backlog will be eliminated with the exception of approximately 110 historically backlogged SIPs of which NACAA/ECOS and the associated Regions and states are aware of the remaining backlogged SIP issues.</p> <p><i>Additional Information:</i> The Clean Air Act requires states to develop a general plan to attain and maintain the National Ambient Air Quality Standards (NAAQS) in all areas of the country and a specific plan to attain the standards for each area designated nonattainment for a NAAQS. State Implementation Plans, or SIPs, are developed by state and local air quality management agencies and submitted to EPA for approval. A SIP is considered backlogged if it has not been acted on within 12 months from its completeness date. In a February 2014 joint EPA/ECOS/NACAA/commitment, EPA and the States agreed to work toward eliminating the backlog of SIPs that existed as of October 1, 2013 by the end of the 2017. The baseline for the historical backlog is 699. Net cumulative progress against the baseline is measured for each fiscal year as of September 30th. The EPA has revised PM MM7 to simplify the existing measure to more clearly convey our progress to clear the SIP backlog that existed at the start of NACAA-ECOS-EPA agreement (also known as the historical SIP backlog). Accordingly, the EPA has tracked progress for this new measure since FY 2013 and has set targets for FY 2016 and FY 2017.</p>									
(PM M94) Percent of major NSR permits issued within one year of receiving a complete permit application.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	78	78	78	78	78	78	78	78	Percent Issued
Actual	46	73	80	81	91	Data Avail 12/2016			
<p><i>Additional Information:</i> New Source Review (NSR) requires stationary sources to obtain permits before they start construction. NSR permits are usually issued by state or local air pollution control agencies; EPA issues permits in some cases (such as in Indian country). This measure shows progress against the CAA requirement that NSR prevention of significant deterioration (PSD) permits are issued within one year of determination of complete application. The 2004 baseline is 61%.</p>									
(PM M95) Percent of significant Title V operating permit revisions issued within 18 months of receiving a complete permit application.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100	100	100	100	88	88	88	88	Percent Issued
Actual	82	84	86	91	91	Data Avail 12/2016			

	<p>Additional Information: Stationary Source operating permits are legally enforceable documents that permitting authorities issue to air pollution sources after the source has begun to operate and must be renewed every five years. Title V permits are usually issued by state or local air pollution control agencies; EPA issues the permit in some cases (such as in Indian country). Additionally, when a source (or facility) undergoes a major or "significant" revision to its operations that affects emissions, a revision to the Title V operating permit must be sent to the permitting agency for review. This measure tracks timeliness of significant permit revision issuance within 18 months. The 2004 baseline is 100%.</p>								
	(PM M96) Percent of new Title V operating permits issued within 18 months of receiving a complete permit application.								
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	99	99	99	99	75	75	75	75	Percent Issued
Actual	67	72	76	60	59	Data Avail 12/2016			
	<p>Explanation of Results: The EPA did not meet its FY 2014 target for this measure. The vast majority of permits are issued by state air agencies and it is difficult to estimate targets for state work. The variation in actual performance is partly attributable to states' inexperience in issuing selected types of permits as well as shifts to higher priority work.</p> <p>Additional Information: Operating permits are legally enforceable documents that permitting authorities issue to air pollution sources after the source has begun to operate. Usually Title V permits are issued by state or local air pollution control agencies, and the EPA issues the permit in some cases. Title V permits must be renewed every five years. When a new source (or facility) begins operations and has the potential to emit air pollution beyond a certain threshold, a new Title V operating permit must be sent to the permitting agency for review. The 2004 baseline is 75%.</p>								
	(PM N35) Limit the increase of Carbon Monoxide (CO) emissions from mobile sources compared to a 2000 baseline.								
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1.69	1.86	2.02	2.19	2.36	2.53	2.70	2.87	Tons Emitted
Actual	1.69	1.86	2.02	2.19	2.36	2.53			
	<p>Additional Information: As of 2010, the few areas in the United States that still had active issues with local levels of carbon monoxide had controlled their levels to or below EPA's National Ambient Air Quality Standard for CO. These areas have all been re-designated to attainment with a Clean Air Act maintenance plan (i.e., known as "maintenance areas"). For these areas, the local CO level was no longer a growing problem. The baseline in 2000 for Carbon Monoxide emissions from mobile sources is 79.2 million tons. The 2000 Mobile6 inventory is used as the baseline for mobile source emissions.</p>								
(2) Reduce Air Toxics	<p>Strategic Measure: Through 2018, maintain air toxics (toxicity-weighted for cancer) emissions reductions to 4.2 million tons from the 1993 toxicity-weighted baseline of 7.2 million tons.</p>								

(PM 001) Cumulative percentage reduction in tons of toxicity-weighted (for cancer risk) emissions of air toxics from 1993 baseline.										
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit	
Target	36	36	37	42	42	42	41	41	Percent Reduction	
Actual	40	45	45	45	Data Avail 2017	Data Avail 2017				
<i>Additional Information:</i> The baseline in 1993 is 7.24 million tons. The toxicity-weighted emission inventory utilizes the National Emissions Inventory (NEI) for air toxics along with the Agency's compendium of cancer and non-cancer health risk criteria to develop a risk metric that can be tabulated on an annual basis. Air toxics emissions data are revised every three years with intervening years (the two years after the inventory year) interpolated utilizing inventory projection models. The outyear targets are based on expected estimates made with the rules and 2005 NEI inventory and also incorporate population growth estimates, which indirectly project more area source (small source) emissions. The EPA will update future targets with the newly released 2011 National Air Toxics Assessment (NATA) data.										
(PM 002) Cumulative percentage reduction in tons of toxicity-weighted (for non-cancer risk) emissions of air toxics from 1993 baseline.										
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit	
Target	59	59	59	59	59	58	57	57	Percent Reduction	
Actual	53	55	55	55	Data Avail 2017	Data Avail 2017				
<i>Additional Information:</i> The baseline in 1993 is 7.24 million tons. The toxicity-weighted emission inventory utilizes the National Emissions Inventory (NEI) for air toxics along with the Agency's compendium of cancer and non-cancer health risk criteria to develop a risk metric that can be tabulated on an annual basis. Air toxics emissions data are revised every three years with intervening years (the two years after the inventory year) interpolated utilizing inventory projection models. The outyear targets are based on expected estimates made with the rules and 2005 NEI inventory and also incorporate population growth estimates, which indirectly project more area source (small source) emissions. The EPA will update future targets with the newly released 2011 National Air Toxics Assessment (NATA) data.										
(4) Reduce Exposure to Indoor Air Pollutants	Strategic Measure: By 2018, the number of future premature lung cancer deaths prevented annually through lowered radon exposure will increase to 1,056 from the 2008 baseline of 756 future premature lung cancer deaths prevented. The 2011 benchmark is 905 future premature lung cancer deaths prevented.									
	(PM R50) Percentage of existing homes with an operating radon mitigation system compared to the estimated number of homes at or above EPA's 4pCi/L action level.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	12.0	12.5	13.3	13.9	13.9	14.9	14.9	14.9	Percent of Homes
Actual	12.3	12.9	14.1	15	Data Avail 3/2016	Data Avail 12/2016				

Additional Information: The baseline in 2003 is 6.9 percent of existing homes. Radon causes lung cancer, and is a significant threat to human health because it tends to collect in homes, sometimes at very high concentrations. As a result, radon is the largest source of exposure to naturally occurring radiation.

(PM R51) Percentage of all new single-family homes (SFH) in high radon potential areas built with radon reducing features.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	33.0	34.5	36.0	37.5	37.5	40.5	40.5	40.5	Percent of Homes
Actual	40.1	38.2	44.6	38.9	44.1	Data Avail 12/2016			

Additional Information: The baseline in 2003 is 20.7 percent of all new single-family homes. Radon causes lung cancer, and is a significant threat to human health because it tends to collect in homes, sometimes at very high concentrations. As a result, radon is the largest source of exposure to naturally occurring radiation.

Strategic Measure: By 2018, the number of people taking all essential actions to reduce exposure to indoor environmental asthma triggers in homes and schools will increase to 9 million from the 2003 baseline of 3.0 million. EPA will place special emphasis on reducing racial and ethnic asthma disparities among children. The 2012 benchmark is 6.5 million people taking all essential actions to reduce exposure to indoor environmental asthma triggers.

(PM R16) Percentage of parents of children with asthma aware of the EPA asthma program media campaign.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	>30	>30	>30	>30	>30	>30			Percent Aware
Actual	Data Not Avail	36	Data Not Avail	37	37	Data Not Avail			

Additional Information: The baseline in 2003 is 27%. Public awareness is measured before and after the launch of a new wave of the campaign. "Data not available" indicates a time point that was not included in the assessment plan.

(PM R17) Additional health care professionals trained annually on the environmental management of asthma triggers.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	2,000	2,000	3,000	3,000	3,000	1,000			Professionals Trained
Actual	4,153	5,600	4,914	7,237	4,679	2,964			

Additional Information: The baseline in 2003 is 2,360 trained health care professionals. Asthma is a serious, life-threatening respiratory disease that affects millions of Americans. In response to the growing asthma problem, EPA created a national, multifaceted asthma education and outreach program to share information about environmental factors that trigger asthma. This measure is discontinued after FY 2015 as EPA shifts emphasis to the programs supporting the delivery, infrastructure, and sustainable financing of environmental asthma interventions at homes and schools.

(PM R19) Cumulative number of programs supporting the delivery, infrastructure, and sustainable financing of environmental asthma interventions at home and school.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target							300	600	Programs
Actual									
<p><i>Additional Information:</i> The baseline for this new initiative in 2015 is zero programs. EPA is addressing the next important gap in comprehensive asthma care – equipping health, housing, environmental and health insurance programs to effectively support delivery, infrastructure and sustainable financing of environmental asthma interventions at home and school. Strong evidence indicates that many chronic health conditions like asthma disproportionately affect low income, minority, and tribal communities. Environmental pollutants in homes can cause and exacerbate asthma. Further evidence indicates that investment in home interventions will improve health outcomes and reduce and/or shift health care costs from medical treatment to secondary prevention. Programs addressing asthma at the local, tribal, state, regional, and federal level that support in-home asthma education, assessment and interventions will help low-income, minority, and tribal families and communities reduce their exposure to environmental asthma triggers.</p>									

Objective 3 - Restore and Protect the Ozone Layer: Restore and protect the earth's stratospheric ozone layer and protect the public from the harmful effects of ultraviolet (UV) radiation.

Summary of progress towards strategic objective:

EPA continues to make progress through domestic commitments and leadership in international efforts to restore and protect the ozone layer. The latest data available indicate the U.S. has reduced hydrochlorofluorocarbons (HCFC) consumption to 1,640 tons, well below its FY 2013 target of 3,700 tons, and putting EPA on track to meet its strategic goal of reducing HCFC consumption to 1,520 tons by 2015. Under the Montreal Protocol and the Clean Air Act, total United States HCFC production and consumption is capped, and will be completely phased out by 2030. Even with the challenges of long atmospheric lifetimes and pre-phaseout stockpiling of ozone-depleting substances (ODS), ambient concentrations are stabilizing, and with continued significant actions to reduce the atmospheric loading of ODS, EPA expects that ambient concentrations will begin to decline.

Program Area	Performance Measures and Data
(1) Reduce Consumption of Ozone-Depleting Substances	<p>Strategic Measure: By 2015, U.S. consumption of hydrochlorofluorocarbons (HCFCs), chemicals that deplete the Earth's protective ozone layer, will be less than 1,520 tons per year of ozone depletion potential from the 2009 baseline of 9,900 tons per year. By this time, as a result of worldwide reduction in ozone-depleting substances, the level of "equivalent effective stratospheric chlorine" (EESC) in the atmosphere will have peaked at 3.185 parts per billion (ppb) of air by volume and begun its gradual decline to less than 1.800 ppb (1980 level). [Note: This strategic measure will not be adjusted at this time because the baseline dates and milestones are set through the international treaty, the Montreal Protocol.]</p>

(PM S01) Remaining US Consumption of hydrochlorofluorocarbons (HCFCs), chemicals that deplete the Earth's protective ozone layer, measured in tons of Ozone Depleting Potential (ODP).									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	<3,811	<3,811	<3,700	<3,700	<3,700	<1,520	<1,520	<1,520	ODP Tons
Actual	2,435	2,339	1,450	1,640	Data Avail 4/2016	Data Avail 12/2016			
<p><i>Additional Information:</i> The baseline in 1989 for Ozone Depleting Substances consumed is 15,240 tons. The base of comparison for assessing progress is the domestic consumption cap of Class II HCFCs as set by the Parties to the Montreal Protocol. Each Ozone Depleting Substance (ODS) is weighted based on the damage it does to the stratospheric ozone - this is its ozone-depletion potential (ODP). Beginning on January 1, 1996, the cap was set at the sum of 2.8 percent of the domestic ODP-weighted consumption of CFCs in 1989 plus the ODP-weighted level of HCFCs in 1989. Consumption equals production plus import minus export.</p>									

Objective 4 - Minimize Exposure to Radiation: Minimize releases of radioactive material and be prepared to minimize exposure through response and recovery actions should unavoidable releases occur.

Summary of progress towards strategic objective:
 EPA is on track to meet its strategic objective of minimizing exposure to radiation by maintaining a high level of readiness, both in personnel and assets, to support federal radiological emergency response and recovery operations. EPA's regulatory and non-regulatory activities support our mission to protect human health and the environment by minimizing unnecessary exposures to radiation, including operating and maintaining RadNet, providing oversight at the Waste Isolation Pilot Plant (WIPP), and developing important rules and guidance documents. In FY 2015, EPA proposed updated standards for uranium extraction facilities that include groundwater restoration and monitoring requirements. EPA also issued updated Radiation Protection Guidance for Diagnostic and Interventional X-Ray Procedures to ensure radiation doses given to children are as low as possible to minimize exposure risk. Moving forward, EPA continues to face challenges maintaining scientific, technical, and policy expertise in the radiation field as the workforce ages, and continues to utilize innovative approaches to maintaining the requisite expertise.

Program Area	Performance Measures and Data
(1) Prepare for Radiological Emergencies	Strategic Measure: Through 2018, EPA will maintain a 93 percent level of readiness of radiation emergency response program personnel and assets that meet functional requirements necessary to support federal radiological emergency response and recovery operations. The 2012 readiness baseline is 91.5 percent. The level of readiness measure is based on the Agency's Core National Approach to Response assessment process.

(PM R35) Level of readiness of radiation program personnel and assets to support federal radiological emergency response and recovery operations.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	90	90	90	90	93	93	93	93	Percent Readiness
Actual	97	97	92	99	94	93			
<i>Additional Information:</i> The baseline in 2005 is a 50% level of readiness. The level of readiness is measured as the percentage of response team members and assets that meet scenario-based response criteria.									
(PM R36) Average time before availability of quality assured ambient radiation air monitoring data during an emergency.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	0.7	0.7	0.5	0.5	0.5	0.3	0.3	0.3	Days
Actual	0.5	0.5	0.4	0.3	0.3	0.3			
<i>Additional Information:</i> The baseline in 2005 is 2.5 days. The average time in availability is measured as time in days between collection and availability of data for release by EPA during emergency operations.									
(PM R37) Time to approve site changes affecting waste characterization at DOE waste generator sites to ensure safe disposal of transuranic radioactive waste at WIPP.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	70	70	70	70	70	70	70	70	Days
Actual	66	64	73	64	66	67			
<i>Additional Information:</i> The baseline in 2004 is 150 days.									

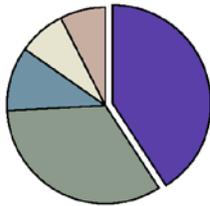
Goal 2 at a Glance

PROTECTING AMERICA'S WATERS

Protect and restore waters to ensure that drinking water is safe and sustainably managed, and that aquatic ecosystems sustain fish, plants, wildlife, and other biota, as well as economic, recreational, and subsistence activities.

FY 2015 Performance Measures

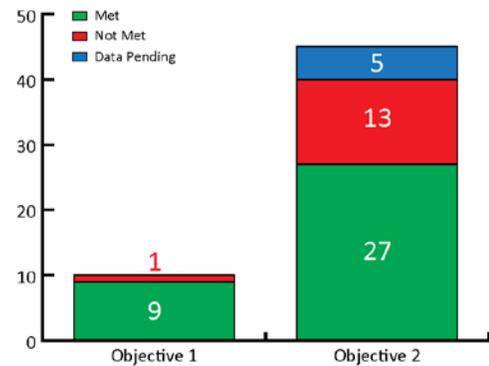
Met: 36 Not Met: 14 Data Unavailable: 5
(Total Measures: 55)



FY 2015 Obligations*

- Taking Action on Climate Change and Improving Air Quality, \$1,076,803
- **Protecting America's Waters, \$4,154,905**
- Cleaning Up Communities and Advancing Sustainable Development, \$3,360,765
- Ensuring the Safety of Chemicals and Preventing Pollution, \$734,741
- Enforcing Environmental Laws, \$786,239

FY 2015 Performance Measures



Strategic Objective Overview	FY 2015 Obligations*	% of Goal 2 Funds
Objective 2.1: Protect Human Health. Achieve and maintain standards and guidelines protective of human health in drinking water supplies, fish, shellfish, and recreational waters, and protect and sustainably manage drinking water resources.	\$1,302,280	31.3%
Objective 2.2: Protect and Restore Watersheds and Aquatic Ecosystems. Protect, restore, and sustain the quality of rivers, lakes, streams, and wetlands on a watershed basis, and sustainably manage and protect coastal and ocean resources and ecosystems.	\$2,852,625	68.7%
Goal 2 Total	\$4,154,905	100.0%

*All figures in thousands

EPA Programs and Activities Contributing to Goal 2

Analytical Methods	National Estuary Program/Coastal Waterways
Beach Program	National Pollutant Discharge Elimination
Coastal and Ocean Programs	System
Chesapeake Bay	Nonpoint Source Pollution Control
Children's Health Protection	Other Geographic Programs (including Lake
Clean Water State Revolving Fund	Pontchartrain and Northwest Forest),
Columbia River Estuary Partnership	Lake Champlain, San Francisco Bay Delta
Commission for Environmental Cooperation	Estuary, South Florida
Cooling Water Intakes	Persistent Organic Pollutants
Drinking Water and Ground Water Protection	Pollutant Load Allocation
Programs	Puget Sound
Drinking Water Research	Surface Water Protection Program
Drinking Water State Revolving Fund	Sustainable Infrastructure Program
Effluent Guidelines	Total Maximum Daily Loads
Fish Consumption Advisories	Trade and Governance
Great Lakes	Underground Injection Control Program
Gulf of Mexico	U.S.-Mexico Border
Human Health and Ecosystem Protection	Wastewater Management
Research	Water Efficiency
Human Health Risk Assessment	Water Monitoring
Long Island Sound	Water Quality Research
Mercury Research	Water Quality Standards and Criteria
National Environmental Monitoring Initiative	Watershed Management
	Wetlands Marine Pollution

GOAL 2: PROTECTING AMERICA'S WATERS

Protect and restore waters to ensure that drinking water is safe and sustainably managed, and that aquatic ecosystems sustain fish, plants, wildlife, and other biota, as well as economic, recreational, and subsistence activities.

Objective 1 - Protect Human Health: Achieve and maintain standards and guidelines protective of human health in drinking water supplies, fish, shellfish, and recreational waters, and protect and sustainably manage drinking water resources.

Summary of progress towards strategic objective:
 EPA has determined performance toward this objective is progressing as planned, with over 91 percent of the nation’s population served and 96 percent of the person months during which community water systems received drinking water that meets all applicable health-based drinking water standards in FY 2015. The high performance of drinking water systems meeting health-based drinking water standards is reflective of EPA’s and states’ efforts to build the technical, managerial and financial capabilities of drinking water systems; most recently, the focus is on the smaller systems serving fewer than 10,000 people because of their unique challenges, and in exploring partnerships to promote system sustainability, and in innovative financing options for infrastructure improvements. The adoption of new recreational water quality criteria by states will protect the public from exposure to harmful levels of fecal contamination. Excess phosphorus and nitrogen loadings in waterbodies continue to be a challenge and contribute to water quality impairments including harmful algal blooms. EPA is developing health advisories for key cyanotoxins, developing new analytical methods, preparing stakeholder support tools and educational materials to respond to this issue.

Program Area	Performance Measures and Data									
(1) Water Safe to Drink	Strategic Measure: By 2018, 92 percent of community water systems will provide drinking water that meets all applicable health-based drinking water standards through approaches including effective treatment and source water protection. (2005 baseline: 89 percent. FY 2013 universe: 51,535 community water systems. Status as of FY 2013: 91.4 percent.)									
	(PM aa) Percent of population served by CWSs that will receive drinking water that meets all applicable health-based drinking water standards through approaches including effective treatment and source water protection.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	90	91	91	92	92	92	92	92	Population
	Actual	92	93.2	94.7	92	93	91			
<i>Explanation of Results:</i> Non-Compliance issues at several of the nation's larger systems. At least 1 of these system violations would not have been reported under the Revised Total Coliform Rule (RTCR).										
<i>Additional Information:</i> In 2005, 89 percent of the population served by community water systems received drinking water that met applicable drinking water standards.										

(PM apc) Fund utilization rate for the DWSRF.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	86	89	89	89	89	89	89	89	Dollars
Actual	91.3	90	90	91	92	94			

Additional Information: In 2005, the fund utilization rate for the Drinking Water State Revolving Fund was 85 percent.

(PM aph) Percent of community water systems that have undergone a sanitary survey within the past three years (five years for outstanding performance or those ground water systems approved by the primacy agency to provide 4-log treatment of viruses).

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	95	95	95	95	83	79	79	85	CWSs
Actual	87	92	89	93	87	90.8			

Additional Information: In 2007, 92 percent of community water systems had undergone a sanitary survey. Prior to FY 2007, this measure tracked states rather than community water systems in compliance with this regulation. Starting in FY 2014, this measure includes ground water systems in addition to surface water systems. Ground water systems that have been approved by the primacy agency to provide 4-log treatment of viruses or have outstanding performance based on prior sanitary surveys may have sanitary surveys conducted no less than every five years (per sec. 142.16(o)(2)(iii)). Because the universe is larger, the targets starting in FY 2014 have been adjusted accordingly.

(PM apm) Percent of community water systems that meets all applicable health-based standards through approaches including effective treatment and source water protection.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	90	90	90	90	90	90	90	90	Systems
Actual	89.6	90.7	91	91	91	90			

Additional Information: In 2005, 89 percent of community water systems met all applicable health-based drinking water standards.

(PM aps) Percent of Classes I, II and III salt solution mining wells that have lost mechanical integrity and are returned to compliance within 180 days, thereby reducing the potential to endanger underground sources of drinking water.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			90	85	85	85	85	85	Wells
Actual			85	89	89	88			

Additional Information: There is no fixed point that can be used as a baseline for this measure, since the activity that we are monitoring - "Mechanical Integrity Loss" - has not yet occurred. The universe of wells losing mechanical integrity is not static.

(PM apt) Number of Class V motor vehicle waste disposal wells (MVWDW) and large capacity cesspools (LCC) [approximately 23,640 in FY 2010] that are closed or permitted (cumulative).

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			20,840	25,225	25,225	25,225	27,783	28,083	Wells
Actual			25,225	26,027	26,560	27,383			

Additional Information: FY 2012 was the first year of reporting for the measure. The baseline is set at the FY 2012 end-of-year result. Note: the Regions are finding fewer and fewer wells suitable for closure or that have not already been permitted.

(PM dw2) Percent of person months during which community water systems provide drinking water that meets all applicable health-based standards.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	95	95	95	95	95	95	95	95	Person Months
Actual	97.3	97.4	97.8	96.9	97	96			

Additional Information: In 2005, community water systems provided drinking water that met all applicable health-based drinking water standards during 95 percent of "person months."

(PM pi1) Percent of population in each of the U.S. Pacific Island Territories (served by community water systems) that meets all applicable health-based drinking water standards, measured on a four-quarter rolling average basis.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	73	75	80	82	80	80	80	80	Population
Actual	82	87	80	81	98	97.7			

Additional Information: In 2005, 95 percent of the population in American Samoa, 10 percent in the Commonwealth of the Northern Mariana Islands (CNMI) and 80 percent in Guam were served by CWSs that received drinking water that met all applicable health-based standards.

Strategic Measure: By 2018, 88 percent of the population in Indian country served by community water systems will receive drinking water that meets all applicable health-based drinking water standards. (2005 baseline: 86 percent. FY 2013 universe: 1,013,222 people in Indian county served by community water systems. Status as of FY 2013: 77 percent.)

(PM E) Percent of the population in Indian Country served by community water systems that receive drinking water that meets all applicable health-based drinking water standards.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	87	87	87	87	87	87	87	87	Population
Actual	87.2	81.2	84	77	89	88			

	<i>Additional Information:</i> In 2005, 86 percent of the population served by community water systems received drinking water that met applicable drinking water standards.									
(2) Fish and Shellfish Safe to Eat	Strategic Measure: By 2018, reduce the percentage of women of childbearing age having mercury levels in blood above the level of concern to 2.1 percent. (2012 baseline (2009-2010 data): 2.3 percent of women of childbearing age have mercury blood levels above levels of concern identified by the National Health and Nutrition Examination Survey (NHANES)).									
	(PM fs1) Percent of women of childbearing age having mercury levels in blood above the level of concern.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	5.1	4.9	4.9	4.9	4.9	2.3	2.3	2.3	Women of Childbearing Age
	Actual	Data Unavailable	Data Unavailable	2.3	2.3	2.3	1.8			
<i>Additional Information:</i> Baseline is 7.8 percent based on data collected in 1999-2000.										

Objective 2 - Protect and Restore Watersheds and Aquatic Ecosystems: Protect, restore, and sustain the quality of rivers, lakes, streams, and wetlands on a watershed basis, and sustainably manage and protect coastal and ocean resources and ecosystems.

Summary of progress towards strategic objective:
 EPA has determined performance toward this objective is “progressing as planned.” The Agency has made sustained progress in removing waterbodies on its impaired waters list, delisting 3,944 waterbodies by end-of-year 2015. Working with its partners, the EPA met the FY 2014-2015 Agency Priority Goal of updating all state Nonpoint Source Management Plans to focus Section 319 and other investments to address nonpoint source pollution, one of the Nation’s largest impediments to improving water quality. Further, the final Clean Water Rule, published in the Federal Register June 2015, clarifies those waters that are protected under the Clean Water Act. The EPA launched the Water Infrastructure and Resiliency Finance Center as a resource for communities as they explore innovation financing options for resilient drinking water, wastewater and storm water infrastructure. In FY 2017, the EPA will continue to support a new approach for measuring local improvements in water quality, resulting in a more transparent and efficient measure of progress and better allowing cross-program integration. This new approach will use the National Hydrography Dataset Plus (NHDPlus) to calculate watershed area to describe previously impaired waters where plans are in place, actions are being implemented, and waters are now attaining water quality standards. In FY 2017, the EPA will continue to work with states to transition to the new approach, developed in partnership with states, to allow more efficient reporting under CWA Sections 303(d) and 305(b). The Chesapeake Bay Program missed its FY 15 nitrogen and sediment loadings targets, which may make it challenging to achieve the 2017 goals under the Executive Order. The lower than expected performance results are largely attributed to unanticipated increases in corn and soy acreages.

Program Area	Performance Measures and Data									
(1) Improve Water Quality on a Watershed Basis	<p>Strategic Measure: By 2018, attain water quality standards for all pollutants and impairments in more than 4,430 water bodies identified in 2002 as not attaining standards (cumulative). (2002 universe: 39,798 water bodies identified by states and tribes as not meeting water quality standards. Water bodies where mercury is among multiple pollutants causing impairment may be counted toward this target when all pollutants but mercury attain standards, but must be identified as still needing restoration for mercury; 1,703 impaired water bodies are impaired by multiple pollutants including mercury, and 6,501 are impaired by mercury alone. Status as of FY 2013: 3,679 water bodies attained standards.)</p>									
	<p>(PM L) Number of water body segments identified by states in 2002 as not attaining standards, where water quality standards are now fully attained (cumulative).</p>									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	2,809	3,073	3,324	3,727	3,829	4,016	4,082	4,182	Segments
	Actual	2,909	3,119	3,527	3,679	3,866	3,944			
	<p><i>Explanation of Results:</i> The target was missed because:</p>									
	<ul style="list-style-type: none"> o Reduced state budgets are slowing implementation activities which are necessary to improve impaired waterbodies. 									
	<ul style="list-style-type: none"> o Meeting standards in a single waterbody segment impaired by multiple pollutants is more difficult than if just one or a few pollutants are impairing the single segment. 									
	<ul style="list-style-type: none"> o Many of the impairments which remain in waters identified in 2002 require many years before restoration strategies accomplish full recovery of the waterbody segments. 									
	<p><i>Additional Information:</i> 2002 baseline: 39,798 water bodies identified by states and tribes as not meeting water quality standards. Water bodies where mercury is among multiple pollutants causing impairment may be counted toward this target when all pollutants but mercury attain standards but must be identified as still needing restoration for mercury; 1,703 impaired water bodies are impaired by multiple pollutants, including mercury, and 6,501 are impaired by mercury alone. For future reporting, the EPA is evaluating a new approach for measuring local improvements in water quality. The goal is to provide a consistent method for measuring progress. This new approach will enable the EPA to more effectively track water quality outcomes from investments in protection and restoration.</p>									
<p>(PM bpb) Fund utilization rate for the CWSRF.</p>										
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit	
Target	92	94.5	94.5	94.5	94.5	94.5	95	95	Dollars	
Actual	100	98	98	97	98	98				
<p><i>Additional Information:</i> In 2002, 91 percent was used as the baseline for this measure. It was calculated using data collected annually from all 51 state CWSRF programs (50 states and Puerto Rico).</p>										

(PM bpf) Estimated annual reduction in millions of pounds of phosphorus from nonpoint sources to water bodies (Section 319 funded projects only).

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	Pounds (Million)
Actual	2.6	4.8	4.4	3.5	2.7	Data Avail 3/2016			

Explanation of Results: EPA collects this information in its Grants Reporting Tracking System (GRTS) for Section 319-funded on-the-ground implementation projects that will reduce phosphorus loads to waterbodies. States use models to estimate load reduction information and enter it into GRTS after the full year of project implementation, so that estimates are informed by on-the-ground field data. Results are reported in GRTS by mid-February for the preceding fiscal year. Therefore, FY 2015 results will be available March 1, 2016.

Additional Information: In 2005, there was a reduction of 558,000 lbs. of phosphorus from nonpoint sources.

(PM bpg) Estimated additional reduction in million pounds of nitrogen from nonpoint sources to water bodies (Section 319 funded projects only).

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	8.5	8.5	8.5	9.1	9.1	9.1	9.1	9.1	Pounds (Million)
Actual	9.8	12.8	9	10.4	11.3	Data Avail 3/2016			

Explanation of Results: EPA collects this information in its Grants Reporting Tracking System (GRTS) for Section 319-funded on-the-ground implementation projects that will reduce nitrogen loads to waterbodies. States use models to estimate load reduction information and enter it into GRTS after the full year of project implementation, so that estimates are informed by on-the-ground field data. Results are reported in GRTS by mid-February for the preceding fiscal year. Therefore, FY 2015 results will be available March 1, 2016.

Additional Information: In 2005, there was a reduction of 3.7 million lbs. of nitrogen from nonpoint sources.

(PM bph) Estimated additional reduction in thousands of tons of sediment from nonpoint sources to water bodies (Section 319 funded projects only).

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	700	700	700	1,100	1,200	1,200	1,200	1,200	Tons (Thousand)
Actual	2,100	2,007	1,100	1,169	1,674	Data Avail 3/2016			

Explanation of Results: EPA collects this information in its Grants Reporting Tracking System (GRTS) for Section 319-funded on-the-ground implementation projects that will reduce sediment loads to waterbodies. States use models to estimate load reduction information and enter it into GRTS after the full year of project implementation, so that estimates are informed by on-the-ground field data. Results are reported in GRTS by mid-February for the preceding fiscal year. Therefore, FY 2015 results will be available March 1, 2016.

Additional Information: In 2005, there was a reduction of 1.68 million tons of sediment from nonpoint sources.

(PM bpl) Percent of high-priority state NPDES permits that are issued in the fiscal year.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	95	100	100	80	80	80	80	80	Permits
Actual	142	135	130	55	80	82			

Additional Information: Priority Permits are permits in need of reissuance that have been identified by states as environmentally or programmatically significant. The annual universe of Priority Permits includes the number of permits selected as priority, from which a subset will be issued in the current fiscal year. In 2005, 104% of the designated priority permits were issued in the fiscal year. Starting in FY 2013, results can no longer exceed 100% issuance due to an adjustment of the measure definition, and the target was revised accordingly. The universe used to calculate percentage results changed from the number of permits committed to issuance in the current fiscal year to the total number of permits selected as priority.

(PM bpv) Percent of high-priority EPA and state NPDES permits (including tribal) that are issued in the fiscal year.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	95	100	100	80	80	80	67.9	80	Permits
Actual	138	132	128	55	77	81			

Additional Information: Priority Permits are permits in need of reissuance that have been identified by states or EPA Regions as environmentally or programmatically significant. The annual universe of Priority Permits includes the number of permits selected as priority, from which a subset will be issued in the current fiscal year. In 2005, 104% of the designated priority permits were issued in the fiscal year. Starting in FY 2013, results can no longer exceed 100% issuance due to an adjustment of the measure definition, and the target was revised accordingly. The universe used to calculate percentage results changed from the number of permits committed to issuance in the current fiscal year to the total number of permits selected as priority.

(PM bpw) Percent of states and territories that, within the preceding 3-year period, submitted new or revised water quality criteria acceptable to the EPA that reflect new scientific information from the EPA or sources not considered in previous standards.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	66	64.3	64.3	64.3	66.1	67.9	67.9	73.2	States and Territories
Actual	67.9	69.6	69.6	58.9	51.8	64.3			

Explanation of Results: Because updating water quality criteria is often complex, some states have had difficulty meeting this measure. EPA expects improved performance in FY 2016 and beyond as states utilize EPA's recently updated national recommended criteria to assist them in complying with 2015 revisions to the Water Quality Standards regulation and with Beach Act requirements.

Additional Information: In 2004, the baseline was 70% of states and territories submitting acceptable water quality criteria reflecting new scientific information.

(PM bpx) Extent of priority areas identified by each state that are addressed by EPA-approved TMDLs or alternative restoration approaches for impaired waters that will achieve water quality standards. These areas may also include protection approaches for unimpaired waters to maintain water quality standards.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						8	8	12	% Priority Watershed Areas
Actual						Data Avail 9/2016			

Explanation of Results: The EPA will successfully report on this measure in FY 2016—with 49 states and territories in the position to report. Due to the timing of completing the development of the tools to automate the calculation of the measure, the EPA was not able to work with states on reporting under this measure in FY 2015.

Additional Information: This is a new measure replacing the measures that tracked state and total TMDL development. Cumulatively, EPA and states completed more than 72,000 TMDLs through FY 2015. A TMDL is a technical plan for reducing pollutants in order to attain water quality standards. The terms "approved" and "established" refer to the completion and approval of the TMDL itself. The universe for the measure is 100% of watershed areas corresponding to priority waters identified by each state. The baseline is the extent of priority areas identified by each state that have been addressed by EPA-approved TMDLs or alternative restoration approaches for impaired waters, or protection approaches for unimpaired waters, at the beginning of the year when the baseline is established. Baseline information will begin to be finalized in FY 2016. The target is the extent of areas within priority areas projected to have a TMDL or alternative restoration or protection plan in 2022. States will identify annual commitments in each fiscal year to work toward the 2022 target.

(PM wq2) Remove the specific causes of water body impairment identified by states in 2002 (cumulative).

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	8,512	9,016	10,161	11,634	12,134	12,788	12,990	13,340	Causes
Actual	8,446	9,527	11,134	11,754	12,288	12,640			

Explanation of Results: The target was missed because:

- o Reduced state budgets are slowing implementation activities which are necessary to improve impaired waterbodies.
- o Meeting standards in a single waterbody segment impaired by multiple pollutants is more difficult than if just one or a few pollutants are impairing the single segment.
- o Many of the impairments which remain in waters identified in 2002 require many years before restoration strategies accomplish full recovery of the waterbody segments.

Additional Information: In 2002, an estimate of 69,677 specific causes of water body impairments were identified by states. For future reporting, the EPA is evaluating a new approach for measuring local improvements in water quality. The goal is to provide a consistent method for measuring progress. This new approach will enable the EPA to more effectively track water quality outcomes from investments in protection and restoration.

Strategic Measure: By 2018, improve water quality conditions in 575 impaired watersheds nationwide using the watershed approach (cumulative). (2002 baseline: Zero watersheds improved of an estimated 4,800 impaired watersheds of focus having one or more water bodies impaired. The watershed boundaries for this measure are those established at the “12-digit” scale by the U.S. Geological Survey (USGS). Watersheds at this scale average 22 square miles in size. “Improved” means that one or more of the impairment causes identified in 2002 are removed for at least 40 percent of the impaired water bodies or impaired miles/acres, or there is significant watershed-wide improvement, as demonstrated by valid scientific information, in one or more water quality parameters associated with the impairments. Status as of FY 2013: 376 improved watersheds.)

(PM uw1) Number of urban water projects initiated addressing water quality issues in the community.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			3	10	30	22	49	25	Projects
Actual			46	9	65	28			

Additional Information: This measure tracks progress in grants that help communities access, improve, and benefit from their urban waters and surrounding land. The target of 49 projects initiated for FY 2016 includes 29 projects under EPA’s Urban Waters Small Grants (direct grants) and 20 projects under the Five-Star and Urban Waters Restoration Program managed by the National Fish and Wildlife Foundation (sub-grants with EPA and leveraged public and private funds). Projects under both programs advance water quality improvement and EPA investments are consistent with CWA Section 104(b)(3) authority. In FY 2015, all grants will be awarded from the Five Star and Urban Waters Restoration Program.

(PM uw2) Number of urban water projects completed addressing water quality issues in the community (cumulative).

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						61	78	124	Projects
Actual						60			

Explanation of Results: Missed target of 61 for completions because one grantee requested an extension to their project completion date.

Additional Information: As this was a new measure in FY 2012, projects were not completed in FY 2013 or FY 2014. Measure was deactivated for FY 2013 and 2014. Measure reactivated in FY 2015 to track cumulative projects completed. This target includes completed Urban Waters Small Grants and grants funded in part by the EPA through the Five Star and Urban Waters Restoration Program managed by the National Fish and Wildlife Foundation.

(PM wq3) Improve water quality conditions in impaired watersheds nationwide using the watershed approach (cumulative).

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	141	208	312	370	408	446	484	519	Watersheds
Actual	168	271	332	376	411	450			

	<p>Additional Information: In 2002, there were 0 watersheds improved of an estimated 4,800 impaired watershed of focus having 1 or more water bodies impaired. The watershed boundaries for this measure are those established at the "12-digit" scale by the U.S. Geological Survey. Watersheds at this scale average 22 square miles in size. "Improved" means that that one or more of the impairment causes identified in 2002 are removed for at least 40 percent of the impaired water bodies or impaired miles/acres, or there is significant watershed-wide improvement, as demonstrated by valid scientific information, in one or more water quality parameters associated with the impairments.</p>									
	<p>Strategic Measure: By 2018, in coordination with other federal agencies, provide access to basic sanitation for 91,900 American Indian and Alaska Native homes. (Status as of FY 2013 baseline: 69,783 homes. Universe: 360,000 homes.)</p>									
	<p>(PM Opb) Percent of serviceable rural Alaska homes with access to drinking water supply and wastewater disposal.</p>									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	98	92	93	93	93.5	92.5	93	93.5	Homes
	Actual	92	92	91	91	94.4	94.6			
	<p>Additional Information: In 2003, 77 percent of serviceable rural Alaska homes had access to drinking water supply and wastewater disposal.</p>									
(2) Improve Coastal and Ocean Waters	<p>Strategic Measure: By 2018, improve regional coastal aquatic ecosystem health, as measured on the "good/fair/poor" scale of the National Coastal Condition Report. (FY 2012 baseline: National rating of "fair" or 3.0 where the rating is based on a 4-point system ranging from 1.0 to 5.0 in which 1 is poor and 5 is good using the National Coastal Condition Report indicators for water and sediment, coastal habitat, benthic index, and fish contamination.)</p>									
	<p>(PM sf3) At least seventy-five percent of the monitored stations in the near shore and coastal waters of the Florida Keys National Marine Sanctuary will maintain Chlorophyll a(CHLA) levels at less than or equal to 0.35 ug l-1 and light clarity (Kd) levels at less than or equal to 0.20 m-1.</p>									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target		75	75	75	75	75	75	75	Stations
	Actual		85.4	CHLA: 70.9; KD: 72.5	>75 (CHLA: 84.5; KD: 80.4)	CHLA = 86.0; Kd = 87.2	CHLA = 82.0; Kd = 77.3			
	<p>Additional Information: In 2005, total water quality was at CHLA < 0.2 ug/l, light attenuation < 0.13/meter.</p>									

(PM sf4) At least seventy-five percent of the monitored stations in the near shore and coastal waters of the Florida Keys National Marine Sanctuary will maintain dissolved inorganic nitrogen (DIN) levels at less than or equal to 0.75 uM and total phosphorus (TP) levels at less than or equal to 0.25 uM.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		75	75	75	75	75	75	75	Stations
Actual		73.6	DIN: 81; TP: 89.5	<75 (DIN: 60.0; TP: 82.3)	DIN=72.6; TP=87.6	DIN=61.7; TP=78.3			

Explanation of Results: This measure has two parts and requires both DIN and TP targets be met to achieve the measure. The EPA did not meet the target for DIN, but did meet the target for TP. Since 1995 elevated DIN numbers have been found closer to shore suggesting human impact. The elevated FY15 DIN number may suggest increasing polluted runoff entering the waterways or may be a bias in the dataset introduced by the reduction of monitoring stations in the western FKMNS (less human impact) and an increase in nearshore shores (heavily human impacted sites).

Additional Information: The baseline for DIN is <0.75 uM (76.3 percent); TP < 0.25 uM (89.9 percent).

(PM sf6) The number of Everglades Stormwater Treatment Areas (STAs) with the annual total phosphorus (TP) outflow less than or the same as the five-year annual average TP outflow, working towards the long-term goal of meeting the 10 parts per billion annual geometric mean.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						3	3	3	Stormwater Treatment Areas
Actual						4			

Additional Information: This was a new measure for FY 2015, replacing PM sf5. The baseline period is the most recent 5 years. The 5-year baseline takes into account variability due to climatic conditions including extremely wet or dry years which are common in South Florida. For FY 2015, the 5-year baseline, 2010 to 2015, is 36 parts per billion (ppb) for STA-1E, 35 ppb for STA-1W, 21 ppb for STA-2, 17 ppb for STA-3/4, and 54 ppb for STA-5/6. The universe is 5 STAs. This measure is working towards the long-term goal of the phosphorus criterion for the Everglades marsh, a 5-year geometric mean of 10 ppb. The equivalent flow-weighted mean discharge concentration at the STAs is 13 ppb.

Strategic Measure: By 2018, 95 percent of active dredged material ocean dumping sites, as determined by 3-year average, will have achieved environmentally acceptable conditions (as reflected in each site's management plan and measured through onsite monitoring programs). (2013 baseline: 96 percent. FY 2012 universe is 67.) (Due to variability in the universe of sites, results vary from year to year (e.g., between 85 percent and 99 percent). While this much variability is not expected every year, the results are expected to have some change each year.)

(PM co5) Percent of active dredged material ocean dumping sites that will have achieved environmentally acceptable conditions (as reflected in each site's management plan).										
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit	
Target	98	98	95	95	95	95	95	95	Sites	
Actual	90.1	93	97	96	95	95				
<i>Additional Information:</i> The 2013 baseline is 66 sites.										
Strategic Measure: By 2018, working with partners, protect or restore an additional (i.e., measuring from 2012 forward) 600,000 acres of habitat within the study areas for the 28 estuaries that are part of the National Estuary Program. (2013 baseline: 1,295,327 acres of habitat protected or restored, cumulative from 2002-2013. In FY 2013, 127,594 acres were protected or restored.)										
(PM 202) Acres protected or restored in National Estuary Program study areas.										
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit	
Target	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	Acres	
Actual	89,985	62,213	114,575	127,594	93,557	111,584				
<i>Explanation of Results:</i> Factors contributing to the number of acres protected and restored each year by the NEPs and their partners are numerous and complex making it difficult to accurately forecast with any degree of certainty. We exceeded our target this year due to factors such as additional Sandy funding for restoration work, permits coming in ahead of schedule, land acquisition negotiations concluding sooner than expected, and good weather conditions.										
<i>Additional Information:</i> 2013 Baseline: 1,295,323 acres of habitat protected or restored; cumulative from 2002-2013.										
(3) Increase Wetlands	Strategic Measure: By 2018, working with partners, achieve a net increase of wetlands nationwide, with additional focus on coastal wetlands, and biological and functional measures and assessment of wetland condition. (2012 baseline: 110.1 million acres of wetlands in the conterminous United States, and 62,300 wetland acres were lost over 2004-2009.) ("No net loss" of wetlands is based on requirements for mitigation in CWA Section 404 permits and not the actual mitigation attained.)									
	(PM 4E) In partnership with the U.S. Army Corps of Engineers, states, and tribes, achieve no net loss of wetlands each year under the Clean Water Act Section 404 regulatory program. ("No net loss" of wetlands is based on requirements for mitigation in CWA 404 permits and not the actual mitigation attained.)									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	No Net Loss	Acres							
	Actual	No Net Loss								
<i>Additional Information:</i> EPA receives data for this measure from the Army Corps of Engineers (ACE). ACE finalized its database and was able to collect actual data for the first time in FY 2009.										

	(PM 4G) Number of acres restored and improved under the 5-Star, NEP, 319, and great water body programs (cumulative).									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit	
Target	110,000	150,000	170,000	190,000	220,000	230,000	290,000	305,000	Acres	
Actual	130,000	154,000	180,000	207,000	221,000	275,555				
<p><i>Explanation of Results:</i> Exceeded commitment due to an unexpected increase in acreage in NEP program. It is often difficult to predict the completion date of protection and restoration projects because of the many factors, or steps required for each project such coordinating with numerous partners, negotiating with landowners, obtaining all the funding from multiple sources, having the necessary permits approved, and weather variability.</p> <p><i>Additional Information:</i> This measure describes the wetland acres restored through only EPA programs. Information on the national status of wetland gains and losses regardless of the cause is provided every five years by the U.S. Fish and Wildlife Service (USFWS). The most recent report (U.S. Fish and Wildlife Service, Status and Trends of Wetlands in the Conterminous United States 2004 to 2009: http://www.fws.gov/wetlands/Status-And-Trends-2009/index.html) noted an annual net loss of 13,800 acres.</p>										
(4) Great Lakes	Strategic Measure: By 2018, implement all management actions necessary for later delisting at 12 Areas of Concern in the Great Lakes (cumulative). (2012 baseline: 2.)									
	(PM 625) Areas of Concern Beneficial Use Impairments removed (cumulative).									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	20	26	33	41	46	60	65	72	BUIs Removed
	Actual	12	26	33	41	52	60			
	<p><i>Additional Information:</i> Results from this measure are achieved through GLRI funding as well as other non-GLRI federal and/or state funding. Universe is 255. An intensive review of this metric conducted during the preparation of GLRI Action Plan II in FY 2014 determined that the number of beneficial use impairments removed prior to the implementation of the GLRI was overstated by two. The 2014 review determined that the delisting of the Oswego Area of Concern in 2006 resulted from the removal of four BUIs, not six. Consequently, the number of “actual” BUIs reported in the table for FYs 2009 through 2013 included the six BUIs believed to have been removed at the Oswego Area of Concern. For FY 2014, the number of actual BUIs reported as removed was corrected to reflect the true number of BUIs removed at the Oswego Area of Concern. However, the number of actual BUIs reported in FY 2010 is accurate since the intensive review also revealed that two BUIs had been removed in FY 2010 but had not been reported until FY 2011.</p>									
	(PM 626) Number of Areas of Concern in the Great Lakes where all management actions necessary for delisting have been implemented (cumulative).									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit	
Target		1	3	4	5	8	9	11	AOCs	
Actual		2	2	3	7	7				

Explanation of Results: The performance goal was set at an approximate target level, and the deviation from that level is slight. There was no effect on overall program or activity performance. The program will report a cumulative total of 8 AOCs (the target) at which management actions have been completed by the end of calendar year 2015. This target was missed for the fiscal year because construction season goes beyond the end of the fiscal year. Management actions for the St. Clair AOC (the 8th AOC) will be implemented by the end of calendar year 2015.

Additional Information: Universe of 31; baseline of 1. Results from this measure are achieved through GLRI funding as well as other non-GLRI federal and/or state funding.

(PM 628) Number of acres controlled by GLRI-funded projects (cumulative).

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		1,500	15,500	34,000	38,000	94,500	110,000	120,000	Acres
Actual		13,045	31,474	35,924	84,500	101,392			

Explanation of Results: Target was previously raised to 94,500 during FY 2016 budget development because the FY 2014 end-of-year result exceeded the previously set cumulative target for FY 2016. Result exceeds actual target by about 7.3%.

Additional Information: There were zero acres managed for populations of invasive species controlled to a target level in 2005.

(PM 629) Number of GLRI-funded Great Lakes rapid responses or exercises conducted.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		4	12	26	35	8	8	8	Number Responses/Plans
Actual		8	23	30	38	21			

Explanation of Results: The 8 Great Lakes States have committed to conducting annual training exercises, but prioritize activities to respond to detections of new invasive species. In FY 2015 multiple state agencies and others completed 2 training exercises and 19 actual responses. The responses helped prevent establishment in the Great Lakes of self-sustaining populations of invasive species, such as Red Swamp Crayfish and silver, bighead, and black carp.

Additional Information: There were zero multi-agency rapid response plans established, mock exercises to practice responses carried out under those plans, and/or actual response actions in 2005. Measure changed to annual (non-cumulative) measure beginning in FY 2015, per GLRI Action Plan II.

(PM 638) Projected phosphorus reductions from GLRI-funded projects in targeted watersheds (measured in pounds).

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						130,000	310,000	525,000	Pounds
Actual						160,117			

Additional Information: Cumulative measure of average annual projected reduction, starting in FY 2015.

(PM 639) Projected volume of untreated urban runoff captured or treated by GLRI-funded projects. (Cumulative)									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						30	70	120	Gallons (millions)
Actual						37			
<i>Additional Information:</i> Cumulative measure of average annual projected reduction, starting in FY 2015.									
Strategic Measure: By 2018, implement and evaluate actions necessary to protect, restore, or enhance 20 percent of U.S. Great Lakes coastal wetlands greater than 10 acres. (2012 baseline: 0.)									
(PM 640) Number of miles of Great Lakes tributaries reopened by GLRI-funded projects. (Cumulative)									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						2,200	4,200	4,500	Miles
Actual						3,855			
<i>Explanation of Results:</i> The cumulative result now includes tributary miles that were not previously being included due to data collection restraints. 380 miles were realized in FY 2015.									
<i>Additional Information:</i> Baseline: 1,900; Universe: N/A									
(PM 641) Number of miles of Great Lakes shoreline and riparian corridors protected, restored, and enhanced by GLRI-funded projects. (Cumulative)									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						75	350	400	Miles
Actual						313			
<i>Explanation of Results:</i> In FY 2013 and FY 2014 GLRI Regional Working Group (RWG) agencies funded additional projects that contribute results for the measure, in anticipation that results from previously funded projects would be insufficient to meet targets. The additional projects more than made up for earlier projected shortfalls.									
<i>Additional Information:</i> Baseline: 0; Universe: N/A									
(PM 642) Number of acres of Great Lakes coastal wetlands protected, restored, and enhanced by GLRI-funded projects. (Cumulative)									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						7,000	15,000	30,000	Acres
Actual						7,033			
<i>Additional Information:</i> Baseline: 0; Universe is 260,000 acres.									

(5) Chesapeake Bay	(PM 643) Number of acres of other habitats in the Great Lakes basin protected, restored, and enhanced by GLRI-funded projects. (Cumulative)									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target						127,000	167,000	187,000	Acres
	Actual						146,815			
	<i>Explanation of Results:</i> In FY 2013 and FY 2014 GLRI Regional Working Group (RWG) agencies funded additional projects that contribute results for the measure, in anticipation that results from previously funded projects would be insufficient to meet targets. The additional projects more than made up for earlier projected shortfalls.									
	<i>Additional Information:</i> Baseline is 117,000 acres. Universe is 1,290,000 acres.									
	Strategic Measure: By 2018, achieve 45 percent attainment of water quality standards for dissolved oxygen, water clarity/underwater grasses, and chlorophyll a in Chesapeake Bay and tidal tributaries. (2011 Baseline: 40 percent.)									
	(PM 234) Reduce per capita nitrogen loads (pounds per person per year) to levels necessary to achieve Chesapeake Bay Total Maximum Daily Load allocations.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target				15.17	15	14.5	14	13.5	Pounds/Pers on/Year
Actual				14.92	14.7	14.8				
<i>Explanation of Results:</i> The seemingly backward direction of this measure is from introducing new data from the Agricultural Census since last year. High commodity prices for corn, for example, led to more acres of this crop, which uses considerably more fertilizer and retains less compared to the acres of low-loading hay and pasture it replaced. This didn't happen in a single year, but is an adjustment based on new information for that 5 year time period.										
<i>Additional Information:</i> FY 1986 baseline is 27 pounds of nitrogen/person/year. Universe is 11 pounds of nitrogen/person/year by December 31, 2025 (FY 2026). This measure replaced PM 233 starting in FY 2013.										
(PM cb6) Percent of goal achieved for implementing nitrogen reduction actions to achieve the final TMDL allocations, as measured through the phase 5.3 watershed model.										
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit	
Target		1	15	22.5	30	37.5	45	52.5	Percent Goal Achieved	
Actual		8	21	25	27	21				
<i>Explanation of Results:</i> The direction of this measure is from introducing new data from the Agricultural Census. High commodity prices for corn, for example, led to more acres of this crop, which uses considerably more fertilizer and retains less compared to the acres of low-loading hay and pasture it replaced. This didn't happen in a single year, but is an adjustment based on new information for that 5 year time period.										
<i>Additional Information:</i> The FY 2010 baseline is 0 percent. The universe is 100 percent goal achievement by December 31, 2025 (FY 2026).										

	(PM cb7) Percent of goal achieved for implementing phosphorus reduction actions to achieve final TMDL allocations, as measured through the phase 5.3 watershed model.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit	
Target		1	15	22.5	30	37.5	45	52.5	Percent Goal Achieved	
Actual		1	19	27	43	71				
<p><i>Explanation of Results:</i> This jump in progress is also due to introducing new data from the Agricultural Census. This improvement is due to a change in animal populations that was less than originally projected. Less manure means less phosphorus. This didn't happen in a single year, but is an adjustment based on new information for that 5 year time period.</p> <p><i>Additional Information:</i> The FY 2010 baseline is 0 percent. The universe is 100 percent goal achievement by December 31, 2025 (FY 2026).</p>										
	(PM cb8) Percent of goal achieved for implementing sediment reduction actions to achieve final TMDL allocations, as measured through the phase 5.3 watershed model.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit	
Target		1	15	22.5	30	37.5	45	52.5	Percent Goal Achieved	
Actual		11	30	32	37	25				
<p><i>Explanation of Results:</i> The direction of this measure is from introducing new data from the Agricultural Census. High commodity prices for corn, for example, led to more acres of this crop, which uses considerably more fertilizer and retains less compared to the acres of low-loading hay and pasture it replaced. This didn't happen in a single year, but is an adjustment based on new information for that 5 year time period.</p> <p><i>Additional Information:</i> The FY 2010 baseline is 0 percent. The universe is 100 percent goal achievement by December 31, 2025 (FY 2026).</p>										
(6) Gulf of Mexico	Strategic Measure: By 2018, support best management practices and projects to reduce releases of nutrients throughout the Mississippi River Basin to aid in the reduction of the size of the hypoxic zone in the Gulf of Mexico to less than 5,000 km ² , as measured by the 5-year running average of the size of the zone. (Baseline: 2005-2009 running average size is 15,670 km ² .)									
	(PM xg1) Restore water and habitat quality to meet water quality standards in impaired segments in 13 priority coastal areas (cumulative starting in FY 2007).									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	96	202	320	360	360	360			Impaired Segments
	Actual	170	286	316	339	346	411			
<i>Additional Information:</i> In 2008, the Gulf of Mexico coastal wetlands habitats included 3,769,370 acres.										

	(PM xg2) Restore, enhance, or protect a cumulative number of acres of important coastal and marine habitats.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	27,500	30,000	30,600	30,600	30,600	30,800	30,800	30,800	Acres
	Actual	29,552	30,052	30,248	30,306	30,319	30,574			
	<i>Explanation of Results:</i> In FY 2015, the GMP protected, enhanced or restored a total of 254.90 acres. This is a significant increase over the 14 acres reported for FY 2014; yet it does not meet our cumulative target of 30,800. The Gulf Program supports communities in one of the largest watersheds within the US, the Mississippi River – at approximately 1,467,182 square miles.									
	<i>Additional Information:</i> In 2008, 25,215 acres were restored, enhanced, or protected in the Gulf of Mexico.									
	(PM xg3) Improve and/or restore water and habitat quality to meet water quality standards in watersheds throughout the five Gulf States and the Mississippi River Basin.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target							2	4	Watersheds (12 digit HUC)
	Actual									
<i>Additional Information:</i> New measure replacing PM xg1. The measure will track improved and/or restored watershed annually. A 12 digit HUC watershed will be counted as having an improvement when there is a five percent or more positive change in at least one water quality parameter. Water quality parameter(s) appropriate to the 12 digit HUC watershed include dissolved oxygen, temperature, pH, turbidity, total suspended solids, salinity, chlorophyll, freshwater inflow, oil/grease, floatables, nutrients, and invasive species.										
(7) Long Island Sound	Strategic Measure: By 2018, reduce the maximum area of hypoxia in Long Island Sound by 15 percent from the pre-TMDL average of 208 square miles as measured by the 5-year running average size of the zone. (Baseline: Pre-total maximum daily load (TMDL) average conditions based on 1987-1999 data is 208 square miles. Post-TMDL includes years 2000-2017. Universe: The total surface area of Long Island Sound is approximately 1,268 square miles; the potential for the maximum area of hypoxia would be 1,268 square miles.)									
	(PM li5) Percent of goal achieved in reducing trade-equalized (TE) point source nitrogen discharges to Long Island Sound from the 1999 baseline of 59,146 TE lbs/day.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	52	72	74	76	85	91.5	95	100	TE Pounds/Day
Actual	70	69	83	88	94	Data Avail 9/2016				

Explanation of Results: Nitrogen discharge data is collected by the states of New York and Connecticut on a calendar year basis from the 106 treatment plants discharging to Long Island Sound. December data is reported with a 30 day lag time and that data is reviewed for quality assurance and confirmed then entered into EPA's Discharge Monitoring Report system by the states in early March. Nitrogen discharge data for calendar year 2015 will be available in September 2016. Full calendar year data is required in order to capture seasonal variations in processing nitrogen through biological means. Temperature variations (fall/winter vs. spring/summer) and precipitation levels affect the ability of the treatment plant operators to control nitrogen discharges.

Additional Information: The 2000 TMDL baseline is 59,146 Trade-Equalized (TE) pounds/day. The 2014 TMDL target is 22,774 TE pounds/day. The Long Island Sound Nitrogen Total Maximum Daily Load is an enforceable document with a 15-year timetable. There are no annual targets in the TMDL. The 'annual targets' in the strategic plan are for presentation purposes only and are estimates based on the 15 year total nitrogen reduction target. New York City and Westchester County STPs are under Consent Orders that extended their TMDL compliance deadline to 2017. EPA will continue to monitor these post-2014 for compliance, as well as Connecticut STPs for anti-backsliding compliance with their final 2014 TMDL limits, or as renegotiated with EPA.

(PM li8) Restore, protect or enhance acres of coastal habitat from the 2010 baseline of 2,975 acres.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			218	420	410	135	95.8	318	Acres
Actual			537	336	410	1,678			

Explanation of Results: The program target of 135 acres for restoration and protection was significantly exceeded due to Long Island Sound Study partners finally closing on several large tract protection projects, including a 1,000 acre and a 298 acre property in Connecticut. The 1,000 acre Preserve property was acquired by a coalition of federal, state and local partners during a multi-year negotiation process that raised more than \$8.0 million for the acquisition. The Preserve was the largest parcel of undisturbed coastal forest remaining between Boston and New York with a connection to Long Island Sound. The total acres closed under protection in 2015 was 1,552 and the habitat restoration acres totaled 126 in both Connecticut and New York Long Island Sound coastal areas. EPA funds two habitat specialists in the states to coordinate development and implementation of restoration and protection projects and to develop funding partnerships to complete projects.

Additional Information: EPA revised this measure in FY 2012 to measure acres instead of percent of goal achieved. EPA establishes annual targets with partners to measure annual progress. Out-year estimates are based on continued state progress, feasibility, and funding for habitat restoration projects.

(PM li9) Reopen miles of river and stream corridors to diadromous fish passage from the 2010 baseline of 17.7 river miles by removal of dams and barriers or by installation of bypass structures.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			28	75	1.5	30	76.95	46.4	Miles
Actual			72.3	56	21.6	0			

	<p>Explanation of Results: The Long Island Sound Study (LISS) partners did not complete any projects to reopen rivers to fish passage in 2015 although work continued on several ongoing projects. One significant project that was scheduled for completion was delayed due to unavoidable construction factors, but the US Fish & Wildlife Service (USFWS), the lead on the White Rock Dam removal project, indicated that it will likely complete in 2015, just after the internal EPA reporting deadline of September 30. When completed the project will open up 70 miles of river corridor to fish passage that is impeded by dams. Other projects in the pipeline were delayed because of technical and policy issues among permitting agencies. Under the LISS program, EPA funds two habitat restoration specialists in the states of New York and Connecticut and a USFWS wildlife biologist to develop projects and coordinate funding among many federal, state and local partners with interests in restoring fish passage in the Long Island Sound watershed.</p> <p>Additional Information: EPA revised this measure in FY 2012 to report river miles instead of percent of goal achieved. The EPA will establish annual targets with partners to measure annual progress. Out-year estimates are based on continued state progress, feasibility, and funding for fish passage and bypass projects.</p>									
(8) Puget Sound Basin	<p>Strategic Measure: By 2018, improve water quality and enable the lifting of harvest restrictions in 6,000 acres of shellfish bed growing areas impacted by degraded or declining water quality in the Puget Sound. (2013 baseline: 3,203 acres of shellfish beds with harvest restrictions in 2006 had their restrictions lifted. Universe: 30,000 acres of commercial shellfish beds with harvest restrictions in 2006.)</p>									
	<p>(PM ps1) Improve water quality and enable the lifting of harvest restrictions in acres of shellfish bed growing areas impacted by degrading or declining water quality.</p>									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	1,800	4,953	3,878	7,758	4,000	4,700	4,750	6,350	Acres
	Actual	4,453	1,525	2,489	3,203	3,249	3,277			
<p>Explanation of Results: The EPA missed its FY 2015 target due to administrative project delays in approving the upgrading of shellfish harvest areas in Dungeness Bay growing area. In addition, 496 acres in a previously approved area in Portage Bay were downgraded due to unanticipated nonpoint source issues in upland waters draining to the growing area.</p> <p>Additional Information: The Puget Sound has approximately 143,000 acres of approved shellfish harvest beds that require federal, state, local and tribal partners working together to ensure that adjacent water quality and safe harvesting conditions are preserved. Additionally, there are approximately 10,000 acres of potentially recoverable shellfish beds in Puget Sound closed due to nonpoint source pollution. The performance measure reports the net gains (losses) of recovered harvest areas minus any loss of currently approved acres. The Puget Sound Program works to both protect the existing approved shellfish harvest beds, and to improve water conditions so that recoverable harvest areas can be approved for harvest. In 2010, 4,453 acres (cumulative) of shellfish-bed growing areas had improved water quality, resulting in the lifting of harvest restrictions. In 2011, a downgrading of approximately 4,000 acres in Samish Bay occurred due to non-point pollution exacerbated by La Niña weather conditions. Protecting water quality in existing approved areas is critical to the achievement of the performance measure for lifting harvest restrictions. The Puget Sound Program strategically directs resources to address the pathogen pollution problems impacting shellfish harvest in Puget Sound both in the near term - focusing on specific geographical locations (e.g. Samish Bay), and in the long term for existing approved harvest areas and potentially recoverable shellfish acres basin-wide.</p>										

	(PM ps3) Protect or restore acres or shoreline miles of aquatic habitats including: estuaries, floodplains, marine and freshwater shorelines, riparian areas, stream habitats, and associated wetlands.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit	
Target	6,500	12,363	19,063	31,818	33,818	43,006	45,500	48,500	Acres	
Actual	10,062	14,629	23,818	30,128	41,006	43,002				
<p><i>Explanation of Results:</i> The protection and restoration of habitat is one of the three priority areas for the Puget Sound NEP. We missed our commitment by a small margin due to project delays. Future focus on this measure will likely be on protection efforts as the Elwha Dam decommissioning has been completed.</p> <p><i>Additional Information:</i> In 2008, 4,413 acres (cumulative) of tidally- and seasonally-influenced estuarine wetlands were restored. The protection and restoration of habitat is one of the three priority areas for the Puget Sound NEP. The target for this measure has been exceeded every year from FY 2008 - FY 2012 resulting in the protection and/or restoration of 23,818 acres during that period. This is critical to meet salmon recovery goals of viable, harvestable populations of this tribal treaty protected resource. Moving forward, the focus will be on critical floodplain, nearshore, and riparian habitat.</p>										
(9) U.S.-Mexico Border Environmental Health	Strategic Measure: By 2018, provide access to safe drinking water and adequate wastewater sanitation to 75 percent and 90 percent, respectively, of the homes in the U.S.-Mexico Border area that lacked access to either service in 2003. (2003 Universe: 98,515 homes lacked drinking water and 690,723 homes lacked adequate wastewater sanitation based on a 2003 assessment of homes in the U.S.-Mexico Border area. 2018 target: 73,886 homes provided with access to safe drinking water and 621,651 homes with adequate wastewater sanitation.)									
	(PM 4pg) Loading of biochemical oxygen demand (BOD) removed (million pounds/year) from the U.S.-Mexico border area since 2003.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target		108.2	115	121.5	137.3	141.1	150.3	151.3	Million Pounds/Year
	Actual		108.5	119	128.3	131	142.9			
	<i>Additional Information:</i> The 2003 baseline is zero pounds of biochemical oxygen demand (BOD) removed.									
(PM xb2) Number of additional homes provided safe drinking water in the U.S.-Mexico border area that lacked access to safe drinking water in 2003.										
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit	
Target	28,434 (Cumulative)	54,130 (Cumulative)	1,000 (Annual)	3,000 (Annual)	1,700 (Annual)	600 (Annual)	500 (Annual)	20 (Annual)	Homes	
Actual	52,130 (Cumulative)	54,734 (Cumulative)	5,185 (Annual)	3,400 (Annual)	1,468 (Annual)	878 (Annual)				

Additional Information: Units and Baseline: "Additional homes" represents the number of existing households that are provided access (i.e., connected) to safe drinking water as a result of Border Environment Infrastructure Fund (BEIF)-supported projects. The program measures from a baseline of zero additional homes since this measure was developed in 2003. Universe: The known universe is the number of existing households in the U.S.-Mexico border area lacking access to safe drinking water in 2003 (98,515 homes). The known universe was calculated from U.S. Census and the Mexican National Water Commission (CONAGUA) sources. This measure was modified from cumulative to annual beginning in FY 2012 to better capture annual program progress.

(PM xb3) Number of additional homes provided adequate wastewater sanitation in the U.S.-Mexico border area that lacked access to wastewater sanitation in 2003.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	246,175 (Cumulative)	461,125 (Cumulative)	10,500 (Annual)	27,000 (Annual)	39,500 (Annual)	40,750 (Annual)	53,000 (Annual)	6,100 (Annual)	Homes
Actual	254,125 (Cumulative)	513,041 (Cumulative)	31,092 (Annual)	25,695 (Annual)	12,756 (Annual)	44,070 (Annual)			

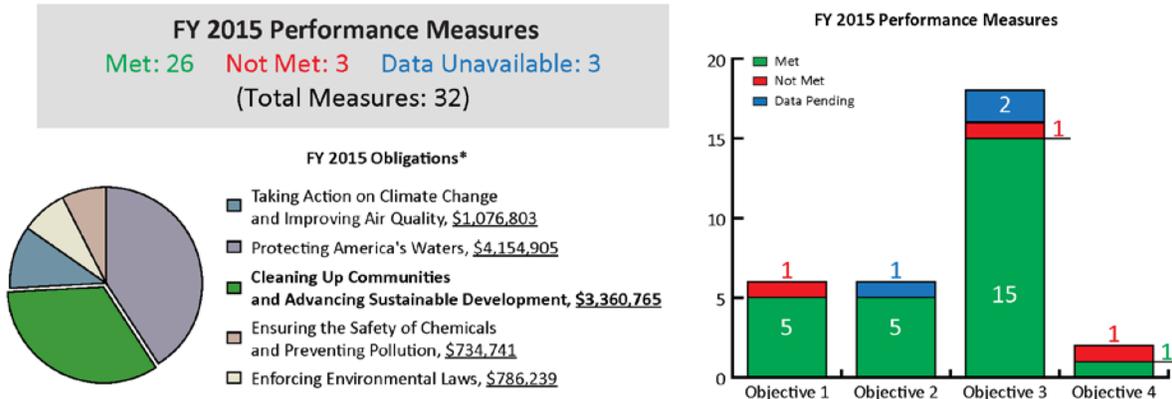
Explanation of Results: The program continues to identify opportunities for expediting construction schedules whenever feasible, resulting in the FY 2015 completion of a project originally scheduled to be completed in FY 2016. In addition, preliminary connection estimates on a large project were exceeded and additional homes in need of services were connected.

Additional Information: Units and Baseline: "Additional homes" represents the number of existing households that are provided access (i.e., connected) to adequate wastewater sanitation as a result of Border Environment Infrastructure Fund (BEIF)-supported projects. The program measures from a baseline of zero additional homes since this measure was developed in 2003. Universe: The known universe is the number of existing households in the U.S.-Mexico border area lacking access to adequate wastewater sanitation services in 2003 (690,723). The known universe of unconnected homes was calculated from U.S. Census and the Mexican National Water Commission (CONAGUA) sources. This measure was modified from cumulative to annual beginning in FY 2012 to better capture annual program progress.

Goal 3 at a Glance

CLEANING UP COMMUNITIES AND ADVANCING SUSTAINABLE DEVELOPMENT

Clean up communities, advance sustainable development, and protect disproportionately impacted low-income and minority communities. Prevent releases of harmful substances and clean up and restore contaminated areas.



Strategic Objective Overview	FY 2015 Obligations*	% of Goal 3 Funds
Objective 3.1: Promote Sustainable and Livable Communities. EPA continued to make progress promoting sustainable communities by providing grants and technical assistance to communities under the Brownfields program and working with a variety of stakeholders to prevent accidents at chemical facilities.	\$485,723	14.5%
Objective 3.2: Preserve Land. EPA continued to make progress developing and implementing targeted SMM programs (responsible management of used electronics, sustainable food management, and reducing the environmental footprint of the federal government); issued the E-Manifest One-Year Rule; and engaged in rigorous UST release prevention efforts.	\$1,236,800	36.8%
Objective 3.3: Restore Land. EPA made progress toward its FY 2014 - 2015 Agency Priority Goal regarding efforts to prepare and respond to emergencies and clean up contaminated land; however, EPA faced challenges in the Superfund Remedial Program.	\$1,551,457	46.2%
Objective 3.4: Strengthen Human Health and Environmental Protection in Indian Country. EPA continues to build tribal capacity through the implementation of the GAP Guidance and EPA's Tribal Consultation Policy. By developing new GAP performance measures and scoping out characteristics of a needs assessment, the agency will be able to identify problems, prioritize issues, and address the gaps in environmental protection in Indian Country.	\$86,785	2.6%
Goal 3 Total	\$3,360,765	100.0%

*All figures in thousands

EPA Programs and Activities Contributing to Goal 3

- RCRA Waste Management
- RCRA Corrective Action
- RCRA Waste Minimization and Recycling
- Superfund Emergency Preparedness
- Superfund Remedial
- Superfund Enforcement
- Superfund Emergency Response and Removal
- Environmental Response Laboratory Network
- Federal Facilities Restoration and Reuse
- Oil Spill Prevention Preparedness and Response
- Leaking USTs
- UST Prevention and Compliance
- Homeland Security
- Brownfields and Land Revitalization
- Commission for Environmental Cooperation
- Community Action for a Renewed Environment
- Global Change Research
- Homeland Security Research
- Human Health and Ecosystem Protection Research
- Human Health Risk Assessment
- National Environmental Monitoring Initiative
- Smart Growth
- Research Fellowships
- State and Local Prevention and Preparedness
- U.S.–Mexico Border
- Sector Grant Program
- State and Tribal Pollution Prevention Grants
- Tribal Capacity-Building
- Tribal General Assistance Program
- Risk Management Program

GOAL 3: CLEANING UP COMMUNITIES AND ADVANCING SUSTAINABLE DEVELOPMENT

Clean up communities, advance sustainable development, and protect disproportionately impacted low-income and minority communities. Prevent releases of harmful substances and clean up and restore contaminated areas

Objective 1 - Promote Sustainable and Livable Communities.: Support sustainable, resilient, and livable communities by working with local, state, tribal, and federal partners to promote smart growth, emergency preparedness and recovery planning, brownfield redevelopment, and the equitable distribution of environmental benefits.

Summary of progress towards strategic objective:
 EPA has determined that performance toward this objective is progressing as planned. EPA continues to make progress with most key performance measures on pace to achieve the 2018 targets. As of the end of FY 2015, brownfields federal funding has leveraged more than 106,000 jobs and raised \$23.3 billion from both public and private sources, and these results have generally increased over time. Challenges include meeting the demand for brownfields assistance, and making sure the funds from brownfields revolving loan funds are available for additional projects. EPA has made significant progress advancing the Executive Order on Improving Chemical Facility Safety and Security (E.O. 13650). There has been a significant decline in accidents reported at Risk Management Program (RMP) facilities. However, EPA is projecting that it will be able to inspect less than 4% of the universe of RMP facilities each fiscal year.

Program Area	Performance Measures and Data									
(2) Assess and Clean Up Brownfields	Strategic Measure: By 2018, conduct environmental assessments at 26,350 (cumulative) brownfield properties. (Baseline: As of the end of FY 2012, EPA assessed 19,154 properties.)									
	(PM B29) Brownfield properties assessed.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	1,000	1,000	1,200	1,200	1,200	1,300	1,400	1,400	Properties
	Actual	1,326	1,784	1,444	1,528	1,659	1,320			
	<i>Additional Information:</i> The FY 2016 target for this measure has been revised from 1,300 to 1,400 based on past performance, improved reporting by grantees, recent data cleanup efforts, and review of pending assessments completed. While the numbers of assessments completed have been higher than the performance targets for several years, the program accomplishments are anticipated to be more closely aligned with the target going forward for at least two reasons. First, the Brownfield program's Project Officers have been working through several years of backlogged work packages, which resulted in increased accomplishments data from prior years' activities. That backlog is now largely cleared. Second, funding for assessments has gone down the past several years, which will result in lower accomplishment numbers in the next two to three years.									
Strategic Measure: By 2018, make an additional 16,800 acres of brownfield properties ready for reuse from the 2012 baseline. (Baseline: As of the end of FY 2012, EPA made 25,408 acres ready for reuse.)										

(PM B32) Number of properties cleaned up using Brownfields funding.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	60	60	120	120	120	120	130	130	Properties
Actual	109	130	120	122	132	150			
<p><i>Explanation of Results:</i> Additional data cleanup efforts to reduce the backlog of open work packages, and approval of additional work resulting from previous years' activities.</p> <p><i>Additional Information:</i> The FY 2016 target for this measure has been revised from 120 to 130 properties cleaned up based on current estimates of cleanups nearing completion during FY 2016. This target is sufficiently ambitious in light of lower program funding in the past five years. Results are expected to fluctuate every other year as new Revolving Loan Fund grants are awarded on a two year cycle beginning in FY 2014.</p>									
(PM B33) Acres of Brownfields properties made ready for reuse.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1,000	1,000	3,000	3,000	3,000	4,000	5,500	5,500	Acres
Actual	3,627	6,667	3,314	4,644	6,389	7,817			
<p><i>Explanation of Results:</i> Additional data cleanup efforts to reduce the backlog of open work packages, and approval of additional work resulting from previous years' activities.</p> <p><i>Additional Information:</i> The FY 2016 target for this performance measure has been increased from 4,000 to 5,500 to better reflect recent performance trends and review of pending cleanups and assessments completed. This measure is very difficult to target since there is no programmatic control of the size of a brownfield site, which typically is 1-3 acres in size. EPA is working to develop a methodology to better predict accomplishments by looking at the numbers of assessment, cleanup and Revolving Loan Fund grants awarded in a particular year and then projecting expected ready for use determinations from those funding vehicles.</p>									
(PM B34) Jobs leveraged from Brownfields activities.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	5,000	5,000	5,000	5,000	5,000	5,000	7,000	7,000	Jobs
Actual	5,177	6,447	5,593	10,141	12,376	11,229			
<p><i>Explanation of Results:</i> Grantees reporting large amounts of jobs leveraged at several large redevelopment projects. The Atlanta Beltline project totaled 4,233 jobs leveraged (54% of total).</p> <p><i>Additional Information:</i> EPA has revised its FY 2016 target from 5,000 to 7,000 jobs to better reflect past performance and review of pending assessment and cleanups completed. Jobs leveraged is difficult to predict and varies from year-to-year as it is dependent on the final use of the brownfield sites. The relatively large accomplishment numbers in FYs 2013, 2014 and 2015 were due to improved reporting, and several very large projects.</p>									

	(PM B37) Billions of dollars of cleanup and redevelopment funds leveraged at Brownfields sites.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit	
Target	0.9	0.9	1.2	1.2	1.2	1.1	1.1	1.1	Dollars (Billions)	
Actual	1.40	2.14	1.2	1.54	1.29	1.71				
<i>Explanation of Results:</i> Higher than expected results at several large redevelopment projects. Specifically, three Atlanta Beltline totaling over \$500M.										
(3) Reduce Chemical Risks at Facilities and in Communities	Strategic Measure: By 2018, conduct 2,300 inspections at risk management plan (RMP) facilities. (Baseline: Between FY 2000 and FY 2012, more than 7,400 RMP inspections were completed.)									
	(PM CH2) Number of risk management plan inspections conducted.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	400	560	530	500	460	460	460	460	Inspections
	Actual	618	630	652	539	466	376			
<i>Explanation of Results:</i> The decrease in inspections is a result of several factors including a greater focus on high risk facilities (which are more resource intensive), the increased focus on compliance assistance and outreach, and the diversion of inspection FTE and contractor resources for emergency planning and accident prevention action items committed to under the E.O. on Chemical Facility Safety and Security.										
<i>Additional Information:</i> Between FY 2000 and FY 2015, more than 8,600 Risk Management Plan (RMP) inspections were completed. Of the 460 RMP facility inspections targeted for FY 2017, 36 percent will be conducted at high-risk facilities.										

Objective 2 - Preserve Land: Conserve resources and prevent land contamination by reducing waste generation and toxicity, promoting proper management of waste and petroleum products, and increasing sustainable materials management.

Summary of progress towards strategic objective:

EPA has determined that performance toward this objective is progressing as planned. EPA is making steady progress with most key performance measures on pace to achieve the 2018 targets. Underground storage tank (UST) facilities in significant operational compliance has increased to 72.6%, the number of UST releases has decreased 10% over the past seven years, and EPA has achieved the Sustainable Materials Management 2018 target with 8,795,750 tons of virgin materials offset in FY 2013. Furthermore, in FY 2015 EPA completed significant rules such as the revised Definition of Solid Waste and the UST leak prevention and detection rules. Challenges include the 2.5 billion tons of solid, industrial, and hazardous wastes produced each year. Moreover, tank owners and operators are mostly small businesses and frequent presence by regulators is needed to keep them focused on UST compliance concerns. The long-term vision of this objective is to prevent accidental releases which contaminate land, air, and water. Preventing the contamination of land and preserving critical resources will be vital to creating healthy and vibrant communities.

Program Area	Performance Measures and Data									
(1) Waste Generation and Recycling	Strategic Measure: By 2018, increase by 500,000 tons the amount of virgin materials that were offset by the reuse or recycling of waste products through the use of sustainable materials management. (Baseline: In FY 2013, an estimated 8,500,000 tons of waste products will be reused or recycled through sustainable materials management practices.)									
	(PM SM1) Tons of materials and products offsetting use of virgin resources through sustainable materials management.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target			8,549,502	8,501,537	8,603,033	9,346,830	9,450,000	9,550,000	Tons
	Actual			9,002,588	8,795,750	Data Avail 5/2016	Data Avail 5/2017			
	Strategic Measure: By 2018, increase by 50 the number of tribes covered by an integrated waste management plan compared to FY 2013. (Baseline: As of March 2013, 160 of 574 federally recognized tribes were covered by an integrated waste management plan.)									
	(PM MW8) Number of tribes covered by an integrated solid waste management plan.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	23	14	3	3	10	10	10	10	Tribes
	Actual	23	17	13	26	20	16			
<p><i>Explanation of Results:</i> More Tribes than anticipated were able to complete their SWMPs.</p> <p><i>Additional Information:</i> Beginning in FY 2012, RCRA program grant funding supporting the development of integrated waste management plans was no longer available. However, the performance target is achieved with the assistance of other funding sources, including tribes, other EPA programs, or other federal agencies. Technical assistance to the tribes, such as that provided through tribal circuit riders, also remains available. As of September 2015, 209 of 574 federally-recognized tribes were covered by an integrated waste management plan.</p>										
(2) Minimize Releases of Hazardous Waste and Petroleum Products	Strategic Measure: By 2018, prevent releases at 500 additional hazardous waste management facilities by issuing initial approved controls or updated controls resulting in the protection of an estimated 20 million people living within a mile of all facilities with controls. (Baseline: At the end of FY 2013, an estimated 1,220 facilities will require these controls out of the universe of 6,600 facilities, with over 20,000 process units.)									
	(PM HW0) Number of hazardous waste facilities with new or updated controls.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100	100	100	100	100	110	115	115		

Actual	140	130	117	114	129	120			Facilities
Strategic Measure: By 2018, prevent exposures at polychlorinated biphenyl (PCB) sites by issuing 750 approvals for PCB cleanup, storage, and disposal activities									
(PM PCB) Number of approvals issued for polychlorinated biphenyl (PCB) cleanup, storage and disposal activities.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					150	200	200	200	Approvals
Actual					254	218			
<i>Additional Information:</i> This measure tracks all approvals issued by EPA under Section 761 of the Toxic Substances Control Act (TSCA) for PCBs. The EPA issued 1,275 approvals between FY 2008 and FY 2015.									
Strategic Measure: Each year through 2018, increase the percentage of underground storage tank (UST) facilities that are in significant operational compliance (SOC) with both release detection and release prevention requirements by 0.5 percent over the previous year's target. (Baseline: This means an increase of facilities in SOC from an estimated 70 percent in 2014 to 72 percent in 2018.)									
(PM ST6) Increase the percentage of UST facilities that are in significant operational compliance (SOC) with both release detection and release prevention requirements by 0.5% over the previous year's target.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	65.5	66	66.5	67	70	70.5	71	71.5	Percent
Actual	69	71	71.3	71.6	72.5	72.6			
<i>Additional Information:</i> There were 94,287 on-site inspections of underground storage tanks (UST) between October 2014 and September 2015 and 72.6 percent of those were found to be in significant operational compliance with both release detection and release prevention requirements.									
Strategic Measure: Each year through 2018, reduce the number of confirmed releases at UST facilities to 5 percent fewer than the prior year's target. (Baseline: Between FY 2008 and FY 2012, confirmed UST releases averaged 6,500.)									
(PM ST1) Reduce the number of confirmed releases at UST facilities to five percent (5%) fewer than the prior year's target.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	<9,000	<8,550	<8,120	<7,715	<7,330	<6,965	<6,615	<6,285	Releases
Actual	6,328	5,998	5,674	6,128	6,847	6,830			

Additional Information: The UST prevention program works to ensure that underground sources of drinking water (groundwater) are protected from petroleum and associated chemicals leaking from USTs.

Objective 3 - Restore Land: Prepare for and respond to accidental or intentional releases of contaminants and clean up and restore polluted sites for reuse.

Summary of progress towards strategic objective:

EPA has determined that performance toward this objective is progressing as planned. EPA is making steady progress with most key performance measures on pace to achieve the 2018 targets. This objective includes the following programs: Facility Response Plans (FRP), Spill Prevention Control and Countermeasures (SPCC), emergency preparedness, superfund removals, superfund remedial, RCRA corrective action (RCRA CA), PCB cleanup, and leaking underground storage tank (LUST) cleanups. The long-term vision of this objective is to prepare and respond to emergencies and to clean up contaminated land so it can be safely reused or continued to be used, creating more resilient, healthy, and vibrant communities. As of the end of FY 2015, EPA's land cleanup programs were tracking over 540,000 sites and about 23 million acres, many of which are located in economically distressed communities that suffer from disproportionate and adverse environmental exposures. Under this objective, more than 81% of superfund and 90% of RCRA CA sites have eliminated unacceptable human exposure to contaminants, and over 463,000 LUST, RCRA CA, and superfund sites are now ready for anticipated use (RAU), which contributed to the FY 2014-15 Agency Priority Goal. However, future challenges are likely in the cleanup programs, since stagnated appropriations have caused delays in assessment, investigation, and design work that bring sites into the remedy construction stage. In addition, many of the remaining sites are more complex and are subject to stringent cleanup standards.

Program Area	Performance Measures and Data									
(1) Emergency Preparedness and Response	Strategic Measure: By 2018, achieve and maintain at least 85 percent of the maximum score on the Core National Approach to Response (NAR) evaluation criteria. (Baseline: In FY 2012, the average Core NAR Score was 76 percent for EPA headquarters, regions, and special teams prepared for responding to emergencies.)									
	(PM C1) Score on annual Core NAR.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	55	60	70	72	75	80	82	83	Percent
	Actual	87.9	77.5	75.8	82.2	78.3	Data Avail 3/2016			
Additional Information: The Core NAR score reported for this measure is based upon the combination of two scores, one which measures day-to-day response readiness and another that measures national preparedness for chemical, biological, radiological and nuclear incidents. Beginning in FY 2014, the Core NAR evaluation has taken place after the end of the fiscal year in order to capture a more complete picture of response readiness. Results will be reported in March of the following year.										

	Strategic Measure: By 2018, complete an additional 1,395 Superfund removals. (Baseline: In FY 2013, there were 295 Superfund removal actions completed.)
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(PM 137) Number of Superfund removals completed.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						275	275	275	Removals
Actual						278			
<i>Additional Information:</i> Implemented in FY 2015, this measure combined the retired Superfund-lead (PM 132) and PRP-lead removals with EPA oversight (PM 135) measures. The EPA continues to internally report results for both Superfund-lead and PRP-lead removals with agency oversight. Between FY 2009 and FY 2014, the EPA completed an average of 367 removal actions per year.									
Strategic Measure: By 2018, bring into compliance 60 percent of FRP inspected facilities found to be non-compliant. (Baseline: In FY 2010, 268 FRP facilities were inspected and 121 were found to be non-compliant, an initial compliance rate of 55 percent.)									
(PM 337) Percent of all FRP inspected facilities found to be non-compliant which are brought into compliance.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	15	30	35	40	50	60	60	60	Percent
Actual	48	48	73	78	79	79			
<i>Explanation of Results:</i> Regions made strong effort to bring non-compliant FRP facilities into compliance consistent with OEM's high-risk facility strategy.									
<i>Additional Information:</i> The EPA established this measure in FY 2010 to track Facility Response Plan (FRP) inspected facilities brought into compliance because oil spills at these facilities have a greater potential to cause harm to human health and the environment.									
Strategic Measure: By 2018, bring into compliance 60 percent of SPCC inspected facilities found to be non-compliant. (Baseline: In FY 2010, 781 SPCC facilities were inspected and 456 were found to be non-compliant, an initial compliance rate of 42 percent.)									
(PM 338) Percent of all Spill Prevention, Control and Countermeasure (SPCC) inspected facilities found to be non-compliant which are brought into compliance.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	15	30	35	40	50	60	60	60	Percent
Actual	36	45	63	69	72	74			
<i>Additional Information:</i> The EPA established this measure in FY 2010 to track SPCC facilities brought into compliance because oil spills at certain high-risk SPCC facilities have a greater potential to cause harm to human health and the environment.									

(2) Clean Up Contaminated Land	Strategic Measure: By 2018, complete 95,500 assessments at potential hazardous waste sites to determine if they warrant Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) remedial response or other cleanup activities. (Baseline: As of 2012, the cumulative total number of assessments completed was 91,300.)									
	(PM 115) Number of Superfund remedial site assessments completed.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target		900	900	650	700	850	675	675	Assessments
	Actual		1,020	1,151	772	794	869			
	<i>Additional Information:</i> This measure accounts for all remedial assessments performed at sites addressed under the Superfund Remedial program. Through FY 2015, the EPA had completed a cumulative total of 93,901 remedial site assessments. The FY 2016 performance target has been decreased from 750 to 675 assessments completed to reflect resource constraints and a shift in focus from lower cost assessments at new sites to higher cost assessments at existing sites.									
	Strategic Measure: By 2018, increase to 92 percent the number of Superfund sites and RCRA facilities where human exposures to toxins from contaminated sites are under control. (Baseline: As of October 2013, an estimated 83 percent of Superfund sites and 85 percent of RCRA facilities had human exposures under control out of a combined universe of 5,451.)									
	(PM 151) Number of Superfund sites with human exposures under control.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	10	10	10	10	10	9	9	9	Sites
	Actual	18	10	13	14	9	10			
	<i>Additional Information:</i> Beginning in FY 2014, performance results have included non-NPL Superfund Alternative Approach (SAA) sites. Through FY 2015, the EPA ensured that 1,439 final and deleted NPL sites, including 32 non-NPL sites with SAA agreements in place, met the criteria to be determined human exposure under control.									
	(PM CA1) Cumulative percentage of RCRA facilities with human exposures to toxins under control.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	69	72	81	85	87	90	92	94	Percent	
Actual	72	77	81	85	87	90				
<i>Additional Information:</i> Through FY 2015, the EPA achieved human exposures under control at 90 percent of RCRA corrective action facilities. There are a total of 3,779 corrective action facilities in the 2020 corrective action universe.										
Strategic Measure: By 2018, increase to 86 percent the number of Resource Conservation and Recovery Act (RCRA) facilities with migration of contaminated groundwater under control. (Baseline: At the end of FY 2013, the migration of contaminated groundwater was controlled at 76 percent of all 3,779 facilities needing corrective action.)										

(PM CA2) Cumulative percentage of RCRA facilities with migration of contaminated groundwater under control.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	61	64	69	73	77	80	84	88	Percent
Actual	63	67	72	76	79	82			
<i>Additional Information:</i> Progress for this measure was stronger than anticipated during FY 2015. In order to continue to push progress forward for this measure, the EPA increased the FY 2016 target from 82 to 84 percent.									
Strategic Measure: By 2018, increase to 73 percent the number of RCRA facilities with final remedies constructed. (Baseline: At the end of FY 2013, all cleanup remedies were constructed at an estimated 51 percent of all 3,779 facilities needing corrective action.)									
(PM CA5) Cumulative percentage of RCRA facilities with final remedies constructed.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	35	38	46	51	55	60	64	69	Percent
Actual	37	42	47	51	56	60			
<i>Additional Information:</i> Through FY 2015, the EPA constructed final remedies at 60 percent of RCRA corrective action facilities. There are a total of 3,779 corrective action facilities in the 2020 corrective action universe.									
Strategic Measure: By 2018, increase to 25 percent the number of RCRA facilities with corrective action performance standards attained. (Baseline: At the end of FY 2013, performance standards were attained at an estimated 20 percent of all 3,779 RCRA facilities requiring corrective action.)									
(PM CA6) Cumulative percentage of RCRA facilities with corrective action performance standards attained.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					21	24	30	32	Percent
Actual					24	28			
<i>Additional Information:</i> Progress for this measure has been stronger than anticipated during FY 2015. In order to continue to push progress forward for this measure, the EPA increased the FY 2016 target from 25 to 30 percent.									
Strategic Measure: Each year through 2018, reduce the backlog of LUST cleanups (confirmed releases that have yet to be cleaned up) that do not meet risk-based standards for human exposure and groundwater migration by 1 percent. This means a decrease from 16 percent in 2012 to 10 percent in 2018. (At the end of FY 2012, there were 82,903 releases not yet cleaned up.)									

(PM 111) Percent of confirmed releases pending cleanup completion at UST facilities.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	No Target Established	No Target Established	No Target Established	No Target Established	15	14	13	12	Percent
Actual	19	18	16	15	14	14			

Additional Information: As of the end of FY 2015, there have been 528,521 releases reported, 456,660 (or 86.4 percent) of which have been cleaned up, leaving 71,861 remaining to be cleaned up.

(PM 112) Number of LUST cleanups completed that meet risk-based standards for human exposure and groundwater migration.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	12,250	12,250	11,250	10,100	9,000	8,600	8,600	8,600	Cleanups
Actual	11,591	11,169	10,927	11,582	10,393	9,869			

Additional Information: Through FY 2015, the EPA completed a cumulative total of 456,660 leaking underground storage tank (LUST) cleanups. Current targets reflect a variety of challenges in cleaning up remaining sites, including the complexity of remaining sites, an increased state workload, a decrease in available state resources and the increasing costs of cleanups.

Strategic Measure: Each year through 2018, reduce the backlog of LUST cleanups (confirmed releases that have yet to be cleaned up) in Indian country that do not meet applicable risk-based standards for human exposure and groundwater migration by 1 percent. This means a decrease from 23 percent in 2012 to 17 percent in 2018.

(PM 113) Number of LUST cleanups completed that meet risk-based standards for human exposure and groundwater migration in Indian country.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	30	38	42	42	37	30	26	26	Cleanups
Actual	62	42	47	18	26	32			

Additional Information: Through FY 2015, the EPA completed a cumulative total of 1,105 leaking underground storage tank cleanups in Indian country, out of a universe of 1,396 confirmed releases. This is a subset of the national total of 456,660 leaking underground storage tanks cleanups completed.

Strategic Measure: By 2018, ensure that 946 Superfund sites are "sitewide ready for anticipated use." (Baseline: As of October 2012, 606 Superfund sites had achieved "sitewide ready for anticipated use" out of a universe of 1,742 sites.)

(PM 141) Annual number of Superfund sites with remedy construction completed.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	22	22	22	19	15	13	13	13	Completions
Actual	18	22	22	14	8	14			
<i>Additional Information:</i> Beginning in FY 2014, performance measure results have included non-NPL Superfund Alternative Approach (SAA) sites. Through FY 2015, the EPA has completed construction at 1,177 final and deleted NPL sites and 5 completions at non-NPL sites with SAA agreements in place.									
(PM 152) Number of Superfund sites with contaminated groundwater migration under control.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	15	15	15	15	15	13	13	13	Sites
Actual	18	21	18	18	11	15			
<i>Additional Information:</i> Beginning in FY 2014, performance measure results have included non-NPL Superfund Alternative Approach (SAA) sites. Through FY 2015, the EPA ensured that 1,138 final and deleted NPL sites, including 22 sites with SAA agreements in place, met the criteria to be determined Groundwater Migration Under Control.									
(PM 170) Number of remedial action projects completed at Superfund sites.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		103	130	115	115	105	105	105	Projects
Actual		132	142	121	115	104			
<i>Explanation of Results:</i> At the close of FY 2015, the Program believed that the national target of 105 RAPCs was achieved. Upon further data review, the Program determined that one RAPC was improperly submitted by a region so the total RAPCs achieved in FY 2015 was adjusted accordingly to 104.									
<i>Additional Information:</i> Beginning in FY 2014, performance measure results have included non-NPL Superfund Alternative Approach (SAA) sites. Accordingly, the measure text has been revised by removing the term "NPL." Through FY 2015, the EPA completed 2,252 remedial action project completions (RAPCs) at final and deleted NPL sites and 17 RAPCs at non-NPL sites with SAA agreements in place.									
(PM FF1) Percent of Superfund federal facility sites construction complete.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					86	87	88	88	Percent
Actual					TBD	TBD			

Additional Information: In FY 2014, the EPA began implementing a percent construction complete measure to demonstrate national incremental construction progress at federally-owned Superfund NPL sites. This measure is based on the average of three specific factors: 1) Operable Unit (OU) percent complete; 2) Total cleanup actions percent complete; and 3) Duration of cleanup actions percent complete (national cumulative). While projected targets have been identified for fiscal years 2015-2017, the complete data set needed to accurately estimate targets and calculate results at federal Superfund NPL sites is not currently available through the agency's Superfund Enterprise Management System (SEMS). However, improvements planned for SEMS during FY 2016 will facilitate accurate results reporting that will inform performance estimates for this measure.

(PM S10) Number of Superfund sites ready for anticipated use site-wide.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	65	65	65	60	55	45	45	45	Sites
Actual	66	65	66	56	45	45			

Additional Information: Beginning in FY 2014, performance measure results have included non-NPL Superfund Alternative Approach (SAA) sites. Through FY 2015, the EPA ensured that 752 final and deleted NPL sites, including 4 non-NPL sites with SAA agreements in place, met the criteria to be determined site-wide ready for anticipated use (SWRAU).

Objective 4 - Strengthen Human Health and Environmental Protection in Indian Country: Directly implement federal environmental programs in Indian country and support federal program delegation to tribes. Provide tribes with technical assistance and support capacity development for the establishment and implementation of sustainable environmental programs in Indian country.

Summary of progress towards strategic objective:

The EPA, in consultation with the Office of Management and Budget, has highlighted this objective as a focus area for improvement. An extremely small number of tribes have sought federal environmental program implementation authorities, under-staffed tribal environmental departments have program implementation limitations, data and information are inadequate, there are unique Indian law challenges, and EPA Tribal programs lack sufficient direct implementation resources.

All of these factors present challenges to protecting human health and the environment in Indian country. EPA plans to conduct a multi-pronged assessment of federally-regulated environmental and human health issues in order to effectively align the agency's direct implementation, and other resources to ensure that programs are as effective in Indian country as they are outside of Indian country. In FY 2015, the effort focused on understanding agency data systems, Tribal planning priorities, and current agency direct implementation work. While beginning the discussion of conducting this comprehensive assessment, EPA continues to take actions to respond to known, high priority environmental and human health issues (e.g., access to drinking water and basic sanitation).

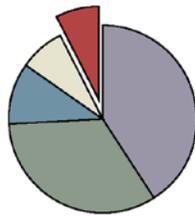
Program Area	Performance Measures and Data									
(1) Improve Human Health and the Environment in Indian Country	Strategic Measure: By 2015, increase the percent of tribes implementing federal regulatory environmental programs in Indian country to 25 percent. (FY 2009 baseline: 22 percent of 572 tribes.)									
	(PM 5PQ) Percent of Tribes implementing federal regulatory environmental programs in Indian country (cumulative).									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	14	18	22	24	25	25	25	25	Percent
	Actual	14	17	21	19	19	20			
	<i>Explanation of Results:</i> EPA underestimated the number of tribes that would seek regulatory authority.									
	<i>Additional Information:</i> A total of 572 tribal entities, including tribes and inter-tribal consortia, are eligible for GAP funding.									
	Strategic Measure: By 2015, increase the percent of tribes conducting EPA-approved environmental monitoring and assessment activities in Indian country to 58 percent. (FY 2012 baseline: 54 percent of 572 tribes)									
	(PM 5PR) Percent of Tribes conducting EPA approved environmental monitoring and assessment activities in Indian country (cumulative).									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	42	52	54	57	58	58	58	58	Percent
	Actual	50	52	54	56.5	31	36			
	<i>Explanation of Results:</i> The percent change in actuals is a result of continuous program improvement efforts resulting in more robust tracking and accuracy. In addition, EPA is undergoing an effort to enhance the Tribal General Assistance Program (GAP) performance management framework that will result in new measures in the future.									
	<i>Additional Information:</i> A total of 572 tribal entities, including tribes and inter-tribal consortia, are eligible for GAP funding.									

Goal 4 at a Glance

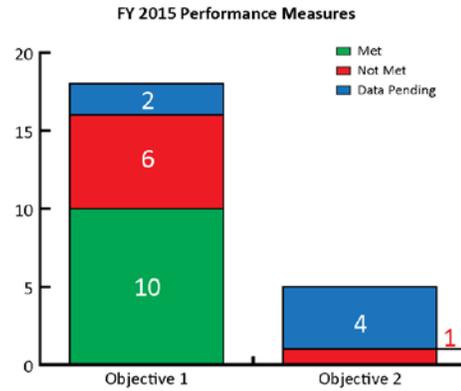
ENSURING THE SAFETY OF CHEMICALS AND PREVENTING POLLUTION

Reduce the risk and increase the safety of chemicals and prevent pollution at the source.

FY 2015 Performance Measures
 Met: 10 Not Met: 7 Data Unavailable: 6
 (Total Measures: 23)



- FY 2015 Obligations***
- Taking Action on Climate Change and Improving Air Quality, \$1,076,803
 - Protecting America's Waters, \$4,154,905
 - Cleaning Up Communities and Advancing Sustainable Development, \$3,360,765
 - Ensuring the Safety of Chemicals and Preventing Pollution, \$734,741
 - Enforcing Environmental Laws, \$786,239



Strategic Objective Overview	FY 2015 Obligations*	% of Goal 4 Funds
Objective 4.1: Ensure Chemical Safety. EPA is making significant achievements in chemical assessment and online public access, along with progress in additional areas as new chemical review, chemical risk management, review of existing Confidential Business Information cases. EPA is advancing the use of ToxCast high-throughput screening data and continues to reduce the risk of lead through outreach and certification programs. Challenges included statutory constraints affecting chemical assessment, and the sheer number of chemicals in commerce for which data are lacking.	\$681,060	92.7%
Objective 4.2: Promote Pollution Prevention (P2). EPA is achieving significant environmental benefits through the development of P2 solutions (greener/leaner/safer chemicals, technologies, and practices) and promoting increased use of those solutions (e.g., increased institutional and consumer purchasing of greener products; increased industrial application of greener technologies and practices). P2 strategies are key elements of EPA's approach to achieving a sustainable future.	\$53,681	7.3%
Goal 4 Total	\$734,741	100.0%

*All figures in thousands

EPA Programs and Activities Contributing to Goal 4

- Chemical Risk Review and Reduction
- Chemical Risk Management
- Endocrine Disruptor Program
- Science Policy Biotechnology
- Protect Human Health from Pesticide Risk
- Protect the Environment from Pesticide Risk
- Realize the Value of Pesticide Availability
- Lead Risk Reduction and Lead Categorical Grant Programs
- Pesticides Program Implementation Categorical Grant Program
- Pollution Prevention
- Pollution Prevention Categorical Grant Programs

GOAL 4: ENSURING THE SAFETY OF CHEMICALS AND PREVENTING POLLUTION

Reduce the risk and increase the safety of chemicals and prevent pollution at the source

Objective 1 - Ensure Chemical Safety: Reduce the risk and increase the safety of chemicals that enter our products, our environment and our bodies.

Summary of progress towards strategic objective:

The EPA has made significant achievements within this objective. The agency published final risk assessments—the first in 28 years—for five chemicals on its TSCA Work Plan Chemicals list; expeditiously initiated the development of TSCA Section 6 rule makings to reduce risks identified for three of those chemicals; and reviewed approximately 1,000 new chemicals before they entered commerce. In the pesticides area, special emphasis has been made to accelerate the pace of docket openings and workplan development for pesticides in order to keep the program on schedule and meet the commitments of the Strategic Plan and its statutorily mandated deadlines. The agency published a science policy document, “Use of High Throughput Assays and Computational Tools; Endocrine Disruptor Screening Program; Notice of Availability and Opportunity for Comment,” (June 2015) describing how the EPA will incorporate an alternative scientific approach to begin screening 1,000 chemicals per year for endocrine activity starting in FY 2017 and advancing the goal of providing sensitive, specific, quantitative and efficient screening using alternative test methods to assays in the Tier 1 battery to protect human health and the environment.

Several challenges remain. In the EPA’s pesticide program, meeting program targets for compliance with the Endangered Species Act (ESA) could be delayed by lawsuits, petitions and the need to implement EPA’s agreement with the National Academy of Sciences (NAS) on ESA compliance. The program is currently piloting several chemicals within the NAS framework. In recent years, while blood lead levels in children have declined overall, the disparity in elevated blood lead levels between low-income and non-low-income children has widened. Certified Lead RRP firms are also re-certifying at a much lower rate than expected, though there is no evidence of a lack of sufficient supply. In the Existing Chemicals Program, the EPA will not likely complete assessments of all of the original 83 TSCA Work Plan chemicals by 2018. In response, the program has refined its approach towards assessments and has developed a multi-year schedule for assessing as many TSCA Work Plan Chemicals as possible through FY 2018, while also assessing clusters of related chemicals that can be used by industry as substitutes for those Work Plan Chemicals.

Program Area	Performance Measures and Data
<p>(1) Protect Human Health from Chemical Risks</p>	<p>Strategic Measure: By 2018, reduce by 30 percent the number of moderate to severe exposure incidents associated with organophosphates and carbamate insecticides in the general population.(Baseline for moderate to severe exposure incidents reported during 2011 is 274, as reported in the American Association of Poison Control Centers' National Poisoning Data System (NPDS) for organophosphates and carbamate pesticides.)</p>

(PM J11) Reduction in moderate to severe exposure incidents associated with organophosphates and carbamate insecticides in the general population.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			10	15	25	30	30	30	Percent
Actual			16	13	20	25			

Explanation of Results: We still expect to meet our 2018 strategic target but the declines in incidents are slowing now as we near the goal for carbamates.

Additional Information: Baseline for moderate to severe exposure incidents reported during 2008 is 316, as reported in the American Association of Poison Control Centers' National Poisoning Data System (NPDS) for organophosphates and carbamate pesticides. In FY 2011, 274 moderate to severe exposure incidents were reported for organophosphates and carbamate pesticides.

Strategic Measure: Through 2018, work to ensure that the percentage of children with blood lead levels above 5 µg/dl does not rise above the 1.0 percent target for FY 2014 and work to make further reductions in blood lead levels. (Baseline is 2.6 percent of children ages 1-5 had elevated blood lead levels (5 ug/dl or greater) in the 2007-2010 sampling period according to the Centers for Disease Control and Prevention's (CDC's) National Health and Nutritional Evaluation Survey (NHANES).)

(PM 008) Percent of children (aged 1-5 years) with blood lead levels (>5 ug/dl).

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	3.5	No Target Established	1.5	No Target Established	1.0	No Target Established	1.0	No Target Established	Percent
Actual	2.6	Biennial	2.1	Biennial	Data Avail 10/2016	Biennial			

Additional Information: Data released by CDC from the National Health and Nutritional Evaluation Survey (NHANES) for the 2007-2010 sampling period showed that an estimated 2.6% of children aged 1 - 5 had elevated blood lead levels (5 ug/dl or greater). Data for this measure are reported biennially.

Strategic Measure: By 2018, reduce the percent difference in the geometric mean blood lead level in low-income children 1-5 years old as compared to the geometric mean for non-low income children 1-5 years old to 10.0 percent. (Baseline is 28.4 percent difference in the geometric mean blood lead level in low-income children ages 1-5 years old as compared to the geometric mean for non-low income children 1-5 years old in 2007-2010 sampling period according to CDC National Health and Nutritional Evaluation Survey (NHANES).)

(PM 10D) Percent difference in the geometric mean blood level in low-income children 1-5 years old as compared to the geometric mean for non-low income children 1-5 years old.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	28	No Target Established	13	No Target Established	20	No Target Established	25	No Target Established	Percent
Actual	28.4	Biennial	34.8	Biennial	Data Avail 10/2016	Biennial			

Additional Information: Data released by CDC from the National Health and Nutritional Evaluation Survey (NHANES) for the 2007-2010 sampling period showed that the estimated difference in the geometric mean blood level in low-income children 1-5 years old as compared to the geometric mean for non-low income children 1-5 years old was 28.4%. Data for this measure are reported biennially.

Strategic Measure: By 2018, reduce the concentration of perfluoro-octanoic acid (PFOA) in blood serum in the general population by 20 percent. (PFOA baseline is based on 2009-2010 geometric mean data in serum (3.07 µg/L) from the CDC’s NHANES.)

(PM D6A) Reduction in concentration of PFOA in serum in the general population.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			1	No Target Established	25	No Target Established	41	No Target Established	Percent Reduction
Actual			32	Biennial	Data Avail 10/2016	Biennial			

Additional Information: Derived from Centers for Disease Control’s National Health and Nutrition Examination Survey (NHANES) on PFOA concentration in the general population. The geometric mean concentration in serum as determined from 2009-2010 sampling data is 3.07 µg/L. Data for this measure are reported biennially.

Strategic Measure: By 2018, complete Endocrine Disruptor Screening Program (EDSP) decisions for 100 percent of chemicals for which complete EDSP data is expected to be available by the end of 2017. (Baseline is 15 decisions have been completed through 2012 for any of the chemicals for which complete EDSP information is anticipated to be available by the end of 2017. EDSP decisions for a chemical can range from determining potential to interact with the estrogen, androgen, or thyroid hormone systems to otherwise determining whether further endocrine related testing is necessary.)

(PM E01) Number of chemicals for which Endocrine Disruptor Screening Program (EDSP) decisions have been completed

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		3	5	20	59	0	0	1,000	Chemicals
Actual		3	1	0	3	54			

Explanation of Results: Made public the DERs for the 52 chemical determinations and two exemptions, which were not originally considered in the FY 2015 target calculations.

Additional Information: Baseline is 15 decisions that have been completed through 2012 for any of the chemicals for which complete EDSP information is anticipated to be available by the end of 2017. EDSP decisions for a chemical can range from determining potential to interact with the estrogen, androgen, or thyroid hormone systems to otherwise determining whether further endocrine related testing is necessary. This measure tracks the number of chemicals with screening level decisions based on integrated scientific reviews of 1) Tier 1 assays; 2) other scientifically-relevant information (e.g., CFR158 data, published literature, high throughput endocrine activity and exposure information); and 3) decisions based on other information that determines whether further endocrine-related testing is necessary for a chemical (e.g., regulatory status of the chemical). In FY 2015, the Agency published a Federal Register notice incorporating ToxCast data for more than 1,800 chemicals that, combined with additional data, will be used to complete the EDSP screening decisions by FY 2017.

Strategic Measure: By 2018, reduce rodenticide exposure incidents by 75 percent in children ages 1-6. (The baseline total number of confirmed and likely rodenticide exposures to children ages 1-6 in 2011 is 10,259 according to data by the Poison Control Centers' National Poison Data System.)

(PM 012) Percent reduction of children's exposure to rodenticides.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		10	5	5	10	25	25	25	Percent
Actual		0	5	12	17	24			

Explanation of Results: The implementation of the rodenticide packaging agreement was delayed due to litigation, resulting in a missed FY 2015 target by 1%. Issue was resolved and the positive impact of the new rodenticide packaging agreement is now having the desired impact on results. We anticipate meeting the strategic goal for this measure.

Additional Information: The baseline for the total number of confirmed and likely rodenticide exposures to children is 11,674 in 2008, based data from the Poison Control Centers' National Poison Data System. By FY 2011, the number of confirmed and likely rodenticide exposures to children ages 1-6 was 10,259.

Strategic Measure: By 2018, EPA will have assessed all currently identified TSCA Work Plan Chemicals. (Baseline is zero assessments finalized for the 83 initially identified TSCA Work Plan Chemicals through 2012.)

(PM RA1) Annual number of chemicals for which risk assessments are finalized through EPA's TSCA Existing Chemicals Program.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					3	7	12	21	Chemicals
Actual					4	1			

Explanation of Results: In FY 2015, the EPA finalized a risk assessment for NMP (n-methylpyrrolidone) which identified risks to people, particularly pregnant women and women of childbearing age, who have high exposures through paint or coating removal. EPA is acting expeditiously on a range of possible voluntary and regulatory actions to address those risks. The FY 2015 target was not achieved because risk assessments could not be finished for the two other original TSCA Work Plan Chemicals (TBB/TBPH) and five related/similar chemicals due to critical data gaps and uncertainties that limit EPA's ability to conduct quantitative risk assessments. Accordingly, a Data Needs Assessment was completed on these seven chemicals and made available to the public in FY 2015, commencing the agency's efforts to seek out the data necessary to complete a risk assessment.

In FY 2015, the EPA implemented an important improvement in the TSCA Work Plan chemical assessment process by developing and publishing Problem Formulation & Initial Assessment documents for four original Work Plan chemicals and seven related/similar chemicals. These documents serve to increase the transparency of EPA's thinking and analysis process and are expected to result in more refined risk assessments by providing opportunity for the public/stakeholders to comment on EPA's approach and provide additional data to supplement or refine assessments prior to EPA conducting detailed risk analysis.

Additional Information: The universe for this annual GPRM measure is comprised of TSCA Work Plan Chemicals and related/similar chemicals. The cumulative baseline is zero chemicals with completed risk assessments through FY 2013. The subset of the results reported for this measure that correspond to the 67 originally-identified TSCA Work Plan Chemicals remaining on the TSCA Work Plan Chemicals list that was refreshed in October, 2014, count as progress toward the FY 2018 Strategic Measure. All five of the chemicals for which the five risk assessments were completed in FY 2014 and FY 2015 are original TSCA Work Plan Chemicals.

(PM 009) Cumulative number of active certified Renovation Repair and Painting firms

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100,000	100,000	140,000	140,000	138,000	145,000	96,000	97,000	Firms
Actual	59,143	114,834	126,323	133,587	139,702	108,623			

Explanation of Results: The FY 2015 target was missed in large part because EPA's RRP program is reaching the end of the first 5-year cycle of initial certifications and firms have to make a decision about whether to recertify. To date only about 30% of firms have chosen to become recertified. It is worth noting that the Agency is not aware of an acute shortage of certified lead renovation firms.

Additional Information: The baseline is zero in 2009. Firms can become certified directly through EPA (tracked through Federal Lead-based Paint Program (FLPP)) or through an authorized State program (tracked through grant reports/internal database). FY 2010 was the first year that firms submitted applications to EPA to become certified. The EPA's RRP program reached the end of the first 5-year cycle of initial certifications and firms have to make a decision about whether to recertify in FY 2015. Cumulative number of active certified RRP firms is equal to the number of firms that remain certified, became certified, or recertified in a given Fiscal Year. A renovation firm may choose to not recertify for a variety of reasons including a decision to leave the industry, a decision to focus on new home construction rather than renovations, or a lack of local demand for lead safe renovation services. Alternatively, new renovation firms continue to emerge and seek certification.

(PM 011) Number of Product Reregistration Decisions

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1,500	1,500	1,200	1,200	900	600	550	600	Decisions
Actual	1,712	1,218	1,255	709	292	562			

Explanation of Results: The lack of necessary entomologists needed to review all the required efficacy data has affected meeting target.

Additional Information: By FY 2012, 18,208 product re-registrations decisions were made according to internal tracking as part of the product reregistration process. The product reregistration universe is 24,584 and the total completed at the close of FY 2014 is 19,216.

(PM 091) Percent of decisions completed on time (on or before PRIA or negotiated due date).

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	99	99	99	99	97.0	96	96	97	Percent
Actual	99.7	98.4	99.1	98.8	85	98.4			

Explanation of Results: To have a fully loaded pipeline and meet the statutorily mandated 2022 deadline for registration review, the program put special emphasis on completing as many dockets and workplans as possible.

Additional Information: Baseline average percentage of decisions completed on time from 2010-2012 is 99.0% according to EPA internal data.

(PM 10A) Annual percentage of lead-based paint certification and refund applications that require less than 20 days of EPA effort to process.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	92	92	95	95	95	95	95	95	Percent
Actual	96	95	97	99	100	99			

Explanation of Results: Exceedance of this target reflects years of concerted and successful efforts to expedite handling of abatement individual certification and refund applications, ensuring that homeowners will have access to a sufficient pool of qualified abatement professionals to perform lead inspections, risk assessments and abatement work.

Additional Information: Baseline is 94%, as determined by averaging the annual performance results for this measure over the period 2008-2012. Data obtained from Federal Lead Based Paint Program (FLPP) information system.

(PM 143) Percentage of agricultural acres treated with reduced-risk pesticides.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	21	21	22	22.5	22.5	22.5	22.5	22.5	Percent
Actual	21	22	22.5	23	Data Avail 10/2016	Data Avail 10/2016			

Explanation of Results: Normal one year data lag.

Additional Information: The baseline for acres-treated is 22% of total acreage in 2011 when the reduced-risk pesticide acre-treatments was 315,000,000 and total (all pesticides) was 1,444,000,000 acre-treatments. Each year's total acre-treatments, as reported by USDA National Agricultural Statistic Service and private marketing research data sources, serve as the basis for computing the percentage of acre-treatments using reduced risk pesticides. Acre-treatments count the total number of pesticide treatments each acre receives each year. Results are reported end of calendar year and have a one-year reporting data lag.

(PM 164) Number of pesticide registration review docket opened.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	70	70	70	72	73	73	66	11	Dockets
Actual	75	81	79	77	75	84			
<p><i>Explanation of Results:</i> To have a fully loaded pipeline and meet the statutorily mandated 2022 deadline for registration review, the program put special emphasis on completing as many dockets and workplans as possible. Note that the targets for these measures ramp down in 2017 when more resources will be redirected to ramp up the work on risk assessments.</p> <p><i>Additional Information:</i> By 2012, total of 376 chemical case work dockets were opened according to EPA internal data. OPP planned this ramp down in targets for opening dockets and completing work plans so it could focus its resources on completing risk assessments and making decisions to meet its statutory deadline by 2022.</p>									
(PM 230) Number of pesticide registration review final work plans completed.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	70	70	70	72	73	73	75	40	Work Plans
Actual	70	75	70	79	81	89			
<p><i>Explanation of Results:</i> To have a fully loaded pipeline and meet the statutorily mandated 2022 deadline for registration review, the program put special emphasis on completing as many dockets and workplans as possible. Note that the targets for these measures ramp down in 2017 when more resources will be redirected to ramp up the work on risk assessments.</p> <p><i>Additional Information:</i> By 2012, total of 327 final workplans for registered pesticides were completed according to EPA internal data. OPP planned this ramp down in targets for opening dockets and completing work plans so it could focus its resources on completing risk assessments and making decisions to meet its statutory deadline by 2022.</p>									
(PM 247) Percent of new chemicals or organisms introduced into commerce that do not pose unreasonable risks to workers, consumers, or the environment.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100	100	100	100	100	100	100	100	Percent
Actual	91	100	100	100	95	96			

Explanation of Results: EPA's analysis of TSCA 8(e) notices received indicated that two chemicals would likely have been found to potentially pose unreasonable risk if the information found in the notices had been available to EPA at new chemical review. These two chemicals were submitted to EPA in the mid-1980s and mid-1990s. Although the target was not achieved, the information from the supporting annual study will potentially enable the agency to strengthen its Premanufacture Notice (PMN) review procedures.

Additional Information: Baseline is 97 percent, as determined by averaging the annual performance results for this measure over the period 2009-2012. Data obtained from the annual report, "Study Comparing PMNs/LVEs to Related 8(e) Chemicals." Baseline is calculated by comparing Section 8(e) notices received in the fiscal year to previously reviewed PMNs. If a risk identified in a new Section 8(e) notice would not have been identified and mitigated by the review, then the program has not met the performance target. Approximately 30 Section 8(e) notices submitted annually are compared to previous PMNs for purposes of determining the annual performance result for this measure.

(PM C19) Percentage of CBI claims for chemical identity in health and safety studies reviewed and challenged, as appropriate, as they are submitted.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	100	Percent
Actual		100	100	100	100	100			

Additional Information: Prior to August 2010, zero percent of approximately 500 TSCA CBI claims submitted per year for chemical identity, which potentially contain health and safety studies, had been reviewed or challenged, where appropriate.

(PM E04) Number of chemicals with Tier 1 screening assay results reviewed.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					52	0			Chemicals
Actual					52	0			

Additional Information: FY 2012 baseline was zero List 1 chemicals for which Tier 1 screening assays results will have completed reviews according to EPA internal tracking. This performance measure accounted for those scientific data evaluation records that had undergone primary and secondary technical reviews for the chemicals that had screening data submitted to the Agency. Targets for EDSP performance measures E01, E04, and E05 were set at zero for FY 2015 in reflection of the time needed for issuance of test orders and completion of the scientific data review processes. Issuance of test orders is dependent on an OMB-approved information collection request (ICR) for the List 2 chemicals. Currently, the ICR is being reviewed by OMB for a decision on whether or not to approve the request and the decision is stipulated on the agency responding to the initial ICR terms of clearance. The agency projected to have an OMB-approved ICR by no earlier than FY 2015, which would have allowed the agency to issue test orders no earlier than late 2015. When recipients receive the Tier 1 test order, the agency allows 2 years minimum for data generation and 1 year for the agency's review of that submitted data, a total of 3 years. Based on these projections, the agency anticipates that results for E01, E04, and E05 would not be realized until 2017. This measure is no longer needed and is captured in E01.

(PM E05) Number of chemicals for which scientific weight of evidence determinations have been completed.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					52	0			Chemicals
Actual					0	52			

Explanation of Results: Made public the DERs for the 52 chemicals determinations, which were not originally considered in the FY 2015 target calculations.

Additional Information: FY 2012 baseline was zero List 1 chemicals for which Tier 1 screening assay results will have completed reviews according to EPA internal tracking. This performance measure accounted for those scientific data evaluation records that had undergone primary and secondary technical reviews for the chemicals that had screening data submitted to the Agency. Targets for EDSP performance measures E01, E04, and E05 were set at zero for FY 2015 in reflection of the time needed for issuance of test orders and completion of the scientific data review processes. Issuance of test orders is dependent on an OMB-approved information collection request (ICR) for the List 2 chemicals. Currently, the ICR is being reviewed by OMB for a decision on whether or not to approve the request and the decision is stipulated on the agency responding to the initial ICR terms of clearance. The agency projected to have an OMB-approved ICR by no earlier than FY 2015, which would have allowed the agency to issue test orders no earlier than late 2015. When recipients receive the Tier 1 test order, the agency allows 2 years minimum for data generation and 1 year for the agency's review of that submitted data, a total of 3 years. Based on these projections, the agency anticipates that results for E01, E04, and E05 would not be realized until 2017. This measure is no longer needed and is captured in E01.

(PM E06) Number of High Throughput Screening (HTS) assays and computational models validated for EDSP chemical prioritization and screening.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					8	18			Assays and Tools
Actual					8	18			

Additional Information: FY 2012 baseline is zero assays or tools validated for EDSP screening, according to EPA internal tracking. There are several steps within the validation process including: preparation of detailed assay descriptions, performance reviews, validation by comparison to reference compounds, and peer reviews. A decision to discontinue validation efforts for a particular assay and/or tool could occur during any of these steps while a decision to accept an assay as validated occurs after all the steps are successfully completed. As HTS assays and computational models are validated for additional endpoints within the context of endocrine adverse outcome pathways, these tools will serve as alternatives for Tier 1 screening battery assays significantly increasing the number of chemicals addressed within the EDSP over time (linked to measure E01 and replaced by measure E07).

(PM E07) Annual number of EDSP Tier 1 screening assays for which validated alternatives have been developed, based on high throughput assays and computational models.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target							2	2	Assays and Tools
Actual									

Additional Information: FY 2014 baseline was zero of the 11 Tier 1 assays for which EPA is developing alternative methods. The target represents the number of Tier 1 assays with newly-developed alternative methods. The total number of Tier 1 assays for which alternatives are to be developed is 11. If the science advances significantly, this measure may be modified in the future to reflect alternative method development for Tier 2 Tests. ToxCast high throughput screening data are now potential alternatives for the Tier 1 ER binding, ERTA, and uterotrophic assays in FY 2015. Not only are the high throughput assays more rapid and less expensive, but this advance also reduces animal use, as the Tier 1 ER binding and uterotrophic assays are animal-dependent assays. The goal is to have alternative data for all 11 Tier 1 assays; however, it is possible that a subset of chemicals may be screened for specific types of endocrine activity (e.g. estrogen) or a chemical class may be screened for estrogen, androgen, and thyroid activities prior to complete endocrine screening of all chemicals currently in the ToxCast chemical library. In FY 2015, high throughput assays (i.e., ER model) alternative was developed for three of the eleven Tier 1 assays.

(2) Protect Ecosystems from Chemical Risks	Strategic Measure: By 2018, no watersheds will exceed aquatic life benchmarks for targeted pesticides. (Data for 2012 provides the most recent percent of agricultural watersheds sampled by the USGS National Water Quality Assessment (NAWQA) program that exceeds the National Pesticide Program aquatic life benchmarks for azinphos-methyl (7 percent) and chlorpyrifos (7 percent). Urban watersheds sampled by the NAWQA program that exceeds the National Pesticide Program aquatic life benchmarks for diazinon (0 percent), chlorpyrifos (0 percent), and carbaryl (9 percent).)									
	(PM 268) Percent of selected urban watersheds that exceed EPA aquatic life benchmark maximum concentrations for three key pesticides of concern (diazinon, chlorpyrifos and carbaryl).									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	5, 0, 20	No Target Established	5, 0, 10	No Target Established	0, 0, 0	No Target Established	0, 0, 0	No Target Established	Percent
	Actual	6.7, 0, 33	Biennial	0, 0, 9	Biennial	7, 0, 0	Biennial			
	<i>Additional Information:</i> Urban watersheds sampled by the USGS National Water Quality Assessment (NAWQA) program that exceed the National Pesticide Program aquatic life benchmarks in 2012 for diazinon, chlorpyrifos and carbaryl is 0 percent, 0 percent, 9 percent, respectively. Data for this measure are reported biennially. The number of sampling and the sampling points in USGS data were constantly changing year to year, depending on their funding. Results from previous reports showed that the exceedances were at different monitoring sites. Starting in FY 2015, the agency is using data from 10 specified sites for urban from the USGS national monitoring sites in the future to provide consistency in data reporting. The monitoring sites were selected based on history of monitoring results, and anticipated consistency in reporting from these national sampling sites. The 10 selected Urban Streams in National Network sites are: Norwalk River at Winnipauk, CT; Accotink Creek near Annandale, VA; Swift Creek near Apex, NC; Sope Creek near Marietta, GA; Clinton River at Sterling Heights, MI; Shingle Creek at Minneapolis, MN; Cherry Creek at Denver, CO; White Rock Creek at Dallas, TX; Little Cottonwood Creek at Salt Lake City, UT; Fanno Creek at Durham, OR. The exceedances are calculated based on the number of exceedances divided by the total number of watersheds. The USGS NAWQA sites selected are the best long term source of surface water monitoring data for a large number of pesticides and their degradates, with consistent QA procedures for both sampling and lab analysis, low detection limits, and have been used by OPP for risk assessment work for over the last 15 years. The most sensitive aquatic benchmark for the chemical are posted on the website: http://www.epa.gov/oppefed1/ecorisk_ders/aquatic_life_benchmark.htm : Diazinon: 0.105 ug/L; Chlorpyrifos: 0.040 ug/L; Carbaryl: 0.5 ug/L.									
	(PM 269) Percent of selected agricultural watersheds that exceed EPA aquatic life benchmark maximum concentrations for two key pesticides of concern (azinphos-methyl and chlorpyrifos).									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	0, 10	No Target Established	0, 10	No Target Established	0, 0	No Target Established	0, 0	No Target Established	Percent
	Actual	0, 8	Biennial	7, 7	Biennial	0, 0	Biennial			

Additional Information: Agricultural watersheds sampled by the USGS National Water Quality Assessment (NAWQA) program that exceed the National Pesticide Program aquatic life benchmarks for azinphos-methyl and chlorpyrifos are 7 percent and 7 percent, respectively. Data for this measure are reported biennially. The number of sampling and the sampling points in USGS data were constantly changing year to year, depending on their funding. Results from previous reports showed that the exceedances were at different monitoring sites. Starting in FY 2015, the agency is using data from 10 specified sites for agricultural sites from the USGS national monitoring sites in the future to provide consistency in data reporting. The monitoring sites were selected based on history of monitoring results, and anticipated consistency in reporting from these national sampling sites. The 10 selected Agricultural Streams in National Network sites are: Canajoharie Creek near Canajoharie, NY; Contentnea Creek at Hookerton, NC; South Fork Iowa River near New Providence, IA; Maple Creek near Nickerson, NE; Bogue Phalia near Leland, MS; Orestimba Creek near Crows Landing, CA; Granger Drain at Granger, WA; Rock Creek at Twin Falls, ID; Zollner Creek near Mt. Angel, OR; Sugar Creek at New Palestine, IN. The exceedances are calculated based on the number of exceedances divided by the total number of watersheds. The USGS NAWQA sites selected are the best long term source of surface water monitoring data for a large number of pesticides and their degradates, with consistent QA procedures for both sampling and lab analysis, low detection limits, and have been used by OPP for risk assessment work for over the last 15 years. The most sensitive aquatic benchmark for the chemical are posted on the website: http://www.epa.gov/oppefed1/ecorisk_ders/aquatic_life_benchmark.htm: Malathion=0.035 ug/L; Methomyl=0.7 ug/L.

(PM 240) Maintain timeliness of FIFRA Section 18 Emergency Exemption Decisions

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	45	45	45	45	45	45	45	45	Days
Actual	50	52	43	27	44	45			

Additional Information: Baseline average number of days for Section 18 decisions from 2009-2012 is 46 days according to EPA internal data.

(PM 276) Percent of registration review chemicals with identified endangered species concerns, for which EPA obtains any mitigation of risk prior to consultation with DOC and DOI.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			5	5	15	5	5	5	Percent
Actual			0	0	0	Data Avail 10/2016			

Additional Information: The baseline is zero percent for each annual reporting period as percentages are not cumulative. The data is tracked by OPP using internal tracking numbers. The data is obtained from ecological risk assessments and effects determinations prepared to support a registration review case. Any mitigation of risk refers to label changes that are intended to reduce the environmental exposure and associated risk of pesticides to listed species and/or their designated critical habitat. This may include such mitigation measures as reduction in the pesticide application rate and/or frequency of application, changes to the timing of application, spray drift, buffers or more geographically specific mitigation measures via EPA's Bulletins Live! Two web-based tool in specific areas where listed species and/or critical habitat are known to co-occur with potential pesticide use based on labeled registered uses.

Objective 2 - Promote Pollution Prevention: Conserve and protect natural resources by promoting pollution prevention and the adoption of other sustainability practices by companies, communities, governmental organizations, and individuals

Summary of progress towards strategic objective:

The EPA has continued to make progress in pollution prevention, increasing the number of chemicals on the Safer Chemical Ingredients List and the number of products recognized through the Safer Choice program. The EPA has also drafted and piloted federal procurement guidelines with the goal of creating a transparent, fair, consistent and results-oriented approach to selecting products that meet environmental performance and ecolabeling standards. The program continues to expand the number of assessments conducted through the Energy, Economy, and Environment (E3) Initiative and the Green Suppliers Network (GSN), aimed at reducing costs to business and industry, reducing greenhouse gas emissions and improving productivity and efficiency. The Presidential Green Chemistry Award Program has spurred over 1,500 nominations over its lifetime, and winning technologies have yielded significant environmental and cost savings.

Despite the successes, the P2 program continues to face challenges with data collection. For example, while the strategy with P2 grants is to collect useful performance data, grantees often report their results at an aggregated or partially-aggregated level, without a breakout of specific P2 practices and corresponding environmental and economic benefits. This has complicated the program’s efforts to validate and understand P2 grant results. To address this challenge, the P2 grant applicants are now required to report facility-level results to increase transparency, and the program has developed a grant results tracking database to specifically address some of these concerns.

Program Area	Performance Measures and Data									
(1) Promote Pollution Prevention	Strategic Measure: By 2018, reduce 600 million pounds of hazardous materials cumulatively through pollution prevention. (Baseline is 578 million pounds reduced from FY 2008 through FY 2012, after removing 626 million pounds in reported results that should not be expected to continue in future years due to atypical results, and increased quality assurance standards for the results that come from states and other grant recipients.)									
	(PM 264) Pounds of hazardous materials reduced through pollution prevention.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	188.1	199.6	88.7	71.6	23.4	204.2	214.2	214.2	Pounds (Millions)
Actual	200.3	154.8	214.9	231.5	190.3	Data Avail 10/2016				

Explanation of Results: Adjustments to prior year results (FY 2010 – FY 2013) were made to 1) remove results attributable to the Presidential Green Chemistry Challenge Award Program in accordance with recommendations made in a September 2015 IG report, and 2) to correct for a broken formula in the excel-based Electronics Environmental Benefits Calculator (EEBC). The recently launched web-based EEBC corrects this issue going forward. FY 2014 Results significantly exceed an outdated target that was based on results prior to correction.

Additional Information: There is a 1-year data lag. Baseline is 1,437 million pounds reduced from FY 2008 through FY 2012, after removing 626 million pounds in reported results that should not be expected to continue in future years due to: 1) atypical results, and 2) increased quality assurance standards for the results that come from states and other grant recipients. For FY 2014, the Pollution Prevention Program reported "recurring results" of an additional 57 Million Pounds of Hazardous Materials reduced, highlighting the ongoing benefits of Pollution Prevention Program activities. "Recurring results" are environmental benefits produced in prior years that continue to deliver environmental benefits over multiple years. By presenting solely new annual results for GPRA performance targets and results, the targets and results show a clearer alignment to the actual budget request and enacted levels. Within the Pollution Prevention Program, there is not a fixed standard number of years that environmental benefit results will recur; rather, each P2 activity has a recurring results formula specific to the type of results and activities.

Strategic Measure: By 2018, reduce 7 million metric tons of carbon dioxide equivalent (MMT_{CO2Eq.}) cumulatively through pollution prevention. (Baseline is 7 MMT_{CO2Eq.} reduced from FY 2008 through FY 2012, after removing 3.5 MMT_{CO2Eq.} in reported results that should not be expected to continue in future years due to atypical results, and increased quality assurance standards for the results that come from states and other grant recipients. The data from this measure are also calculated into the Agency's overall GHG measure under Goal 1.)

(PM 297) Metric Tons of Carbon Dioxide Equivalent (MTCO_{2Eq.}) reduced or offset through pollution prevention.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	2.11	2.19	1.74	1.46	1.0	2.0	2.2	2.2	MTCO _{2Eq.} (Millions)
Actual	2.8	2.8	3.9	3.4	3.0	Data Avail 10/2016			

Explanation of Results: Adjustments to prior year results (FY 2010 – FY 2013) were made to 1) remove results attributable to the Presidential Green Chemistry Challenge Award Program in accordance with recommendations made in a September 2015 IG report, and 2) to correct for a broken formula in the excel-based Electronics Environmental Benefits Calculator (EEBC). The recently launched web-based EEBC corrects this issue going forward. FY 2014 Results significantly exceed an outdated target that was based on results prior to correction.

Additional Information: Normal 1-year data lag. Baseline is 11.1 MMT_{CO2Eq.} reduced from FY 2008 through FY 2012, after removing 3.5 MMT_{CO2Eq.} in reported results that should not be expected to continue in future years due to: 1) atypical results, and 2) increased quality assurance standards for the results that come from states and other grant recipients. For FY 2014, the Pollution Prevention Program reported "recurring results" of an additional 2.8 Million Metric Tons of Carbon Dioxide Equivalent reduced, highlighting the ongoing benefits of Pollution Prevention Program activities. "Recurring results" are environmental benefits produced in prior years that continue to deliver environmental benefits over multiple years. By presenting solely new annual results for GPRA performance targets and results, the targets and results show a clearer alignment to the actual budget request and enacted levels. Within the Pollution Prevention Program, there is not a fixed standard number of years that environmental benefit results will recur; rather, each P2 activity has a recurring results formula specific to the type of results and activities.

Strategic Measure: By 2018, reduce 6.9 billion gallons of water use cumulatively through pollution prevention. (Baseline is 6.9 billion gallons reduced from FY 2008 through FY 2012, after removing 24 billion gallons in reported results that should not be expected to continue in future years due to atypical results, and increased quality assurance standards for the results that come from states and other grant recipients.)

(PM 262) Gallons of water reduced through pollution prevention.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	781	783	785	771	932	1,156	1,390	1,390	Gallons (Millions)
Actual	1,472	1,397	1,175	936	1,618	Data Avail 10/2016			

Explanation of Results: FY 2014 increase in Water Savings results is attributable to 1) an increase in environmental benefits results stemming from the implementation of E3 recommendations, and 2) an increase in results from Regional STAG, SRA, and Direct results. The FY 2014 Target was based on a downward trend of Water Savings Results from FY 2010 – FY 2013 that indicated lower performance trend for Water Savings. The FY 2015 – 2017 targets reflect modest incremental annual increases in performance over the FY 2014 target that will be revisited when FY 2015 results become available (10/2016) and the results indicate that the higher FY 2014 performance level should be expected to continue. The program will continue to promote the implementation of E3 recommendations and this may continue to increase the level of water savings results in the coming years. However, it is difficult to predict the level of performance for this program as the identified environmental savings from E3 recommendations may vary significantly from facility to facility.

Additional Information: There is a 1-year data lag. Baseline is 6.9 billion gallons reduced from FY 2008 through FY 2012, after removing 24 billion gallons in reported results that should not be expected to continue in future years due to: 1) atypical results, and 2) increased quality assurance standards for the results that come from states and other grant recipients. For FY 2014, the Pollution Prevention Program is reporting "recurring results" of an additional 3.5 Billion Gallons of Water reduced, highlighting the ongoing benefits of Pollution Prevention Program activities. "Recurring results" are environmental benefits produced in prior years that continue to deliver environmental benefits over multiple years. By presenting solely new annual results for GPRA performance targets and results, the targets and results show a clearer alignment to the actual budget request and enacted levels. Within the Pollution Prevention Program, there is not a fixed standard number of years that environmental benefit results will recur; rather, each P2 activity has a recurring results formula specific to the type of results and activities.

Strategic Measure: By 2018, save \$ 1.3 billion in business, institutional, and government costs cumulatively through pollution prevention improvements. (Baseline is \$1.33 billion saved from FY 2008 through FY 2012, after removing \$231 million in reported results that should not be expected to continue in future years due to atypical results, and increased quality assurance standards for the results that come from states and other grant recipients.)

(PM 263) Business, institutional and government costs reduced through pollution prevention.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	253.9	268.5	196.9	195.6	133.3	362.6	445.6	445.6	Dollars Saved (Millions)
Actual	435.5	533.7	737.4	594.9	587.5	Data Avail 10/2016			

Explanation of Results: Adjustments to prior year results (FY 2010 – FY 2013) were made to 1) remove results attributable to the Presidential Green Chemistry Challenge Award Program in accordance with recommendations made in a September 2015 IG report, and 2) to correct for a broken formula in the excel-based Electronics Environmental Benefits Calculator (EEBC). The recently launched web-based EEBC corrects this issue going forward. FY 2014 Results significantly exceed an outdated target that was based on results prior to correction.

Additional Information: There is a 1-year data lag. Baseline is \$1.85 billion saved from FY 2008 through FY 2012, after removing \$231 million in reported results that should not be expected to continue in future years due to: 1) atypical results, and 2) increased quality assurance standards for the results that come from states and other grant recipients. For FY 2014, the Pollution Prevention Program reported "recurring results" of an additional \$420 Million Dollars saved, highlighting the ongoing benefits of Pollution Prevention Program activities. "Recurring results" are environmental benefits produced in prior years that continue to deliver environmental benefits over multiple years. By presenting solely new annual results for GPRAs performance targets and results, the targets and results show a clearer alignment to the actual budget request and enacted levels. Within the Pollution Prevention Program, there is not a fixed standard number of years that environmental benefit results will recur; rather, each P2 activity has a recurring results formula specific to the type of results and activities.

Strategic Measure: By 2018, increase the number of safer chemicals and safer chemical products cumulatively by 1,900. (Baseline is 600 safer chemicals and 2,500 safer chemical products recognized in 2013 by the Design for the Environment program.)

(PM P2X) Annual Number of Additional Products Recognized by the Safer Choice program

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						375	100	125	Product
Actual						101			

Explanation of Results: FY 2015 results are 101 Safer Choice Products recognized and 77 chemicals listed on the Safer Chemical Ingredients List. Meeting this target has been affected by the program's recent, important focus on a variety of activities (redesigning and implementing the new Safer Choice logo, developing a new Salesforce data system, bringing existing partners into compliance, etc.) that are critical to making Safer Choice, in the long run, a model of environmental leadership.

Additional Information: Baseline is approximately 2,500 safer chemical products recognized in 2013 by the Safer Choice Program. More information about the Safer Choice program, including currently recognized products and the criteria manufacturers must meet to be recognized, is available at www.epa.gov/saferchoice. The list of products on the Safer Choice Products list is 171 in FY 2014 and 101 in FY 2015. P26 reported on the total of safer chemicals and safer chemical products and is replaced by measures P2X and P2Y, which report separately on safer chemicals and safer chemical products.

(PM P2Y) Annual Number of Additional Chemicals Added to the Safer Chemical Ingredients List

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						100	100	100	Chemicals
Actual						77			

	<p>Explanation of Results: FY 2015 results are 101 Safer Choice Products recognized and 77 chemicals listed on the Safer Chemical Ingredients List. Meeting this target has been affected by the program's recent, important focus on a variety of activities (redesigning and implementing the new Safer Choice logo, developing a new Salesforce data system, bringing existing partners into compliance, etc.) that are critical to making Safer Choice, in the long run, a model of environmental leadership.</p> <p>Additional Information: Baseline is approximately 600 chemicals listed on the Safer Chemical Ingredients List in 2013 by the Safer Choice Program. More information about the Safer Chemical Ingredients List, including currently listed chemicals and criteria for listing, is available at http://www2.epa.gov/saferchoice/safer-ingredients. The list of products on the Safer Chemicals Ingredient List is 49 in FY 2014 and 77 in FY 2015. P26 reported on the total of safer chemicals and safer chemical products and is replaced by measures P2X and P2Y, which report separately on safer chemicals and safer chemical products.</p>
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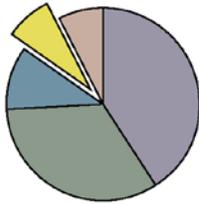
Goal 5 at a Glance

PROTECTING HUMAN HEALTH AND THE ENVIRONMENT BY ENFORCING LAWS AND ASSURING COMPLIANCE

Protect human health and the environment through vigorous and targeted civil and criminal enforcement. Use Next Generation Compliance strategies and tools to improve compliance with environmental laws.

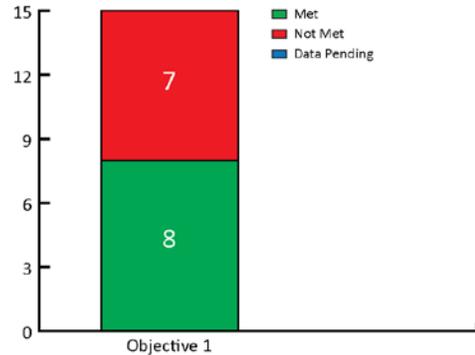
FY 2015 Performance Measures

Met: 8 Not Met: 7 Data Unavailable: 0
(Total Measures: 15)



- Taking Action on Climate Change and Improving Air Quality, \$1,076,803
- Protecting America's Waters, \$4,154,905
- Cleaning Up Communities and Advancing Sustainable Development, \$3,360,765
- Ensuring the Safety of Chemicals and Preventing Pollution, \$734,741
- Enforcing Environmental Laws, \$786,239

FY 2015 Performance Measures



Strategic Objective Overview	FY 2015 Obligations*	% of Goal 5 Funds
Objective 5.1: Enforce Environmental Laws to Achieve Compliance. A wide range of activities enable EPA's enforcement and compliance offices to make progress towards this objective: applying new technology to better target inspections; focusing on cases that address the worst environmental problems, the highest risks, and significant noncompliance; and ensuring federal facility compliance and cleanup of Superfund sites.	\$786,239	100.0%
Goal 5 Total	\$786,239	100.0%

*All figures in thousands

EPA Programs and Activities Contributing to Goal 5

- Environmental Justice
- Compliance Assistance Program
- Environmental Technology Verification Program, Monitoring and Enforcement Program
- National Center for Environmental Innovation
- National Partnership for Environmental Priorities
- Economic Decision Sciences Research
- Pesticide Enforcement Grant Program
- Sector Grant Program
- Sustainable Materials Management
- Toxic Substances Compliance Grant Program
- Sustainability Research
- Superfund Enforcement
- RCRA Corrective Action

GOAL 5: PROTECTING HUMAN HEALTH AND THE ENVIRONMENT BY ENFORCING LAWS AND ASSURING COMPLIANCE

Protect human health and the environment through vigorous and targeted civil and criminal enforcement. Use Next Generation Compliance strategies and tools to improve compliance with environmental laws.

Objective 1 - Enforce Environmental Laws to Achieve Compliance: Pursue vigorous civil and criminal enforcement that targets the most serious water, air, and chemical hazards in communities to achieve compliance. Assure strong, consistent, and effective enforcement of federal environmental laws nationwide. Use Next Generation Compliance strategies and tools to improve compliance and reduce pollution.

Summary of progress towards strategic objective:
 EPA has determined that performance toward this objective is making steady progress. This progress has been achieved by focusing on high impact cases that tackle serious environmental problems in American communities. This work has been guided by the National Enforcement Initiatives (NEIs), other national priorities (e.g., drinking water), and regional enforcement priorities, as well as by vigorously pursuing environmental benefits, such as commitments to clean up contaminated sites and to install pollution control technologies. Given that EPA enforcement addresses the biggest sources of pollution first, the amount of pollution reduced through EPA’s enforcement cases will, by design, decline over time.

EPA has been advancing the use of Next Generation Compliance strategies throughout its enforcement and compliance program. Examples include requirements for advanced monitoring equipment in case settlements and by providing infrared FLIR cameras to 11 states to better detect pollution. Also, on September 24, 2015, EPA finalized the National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule. The final rule will require regulated entities and state and federal regulators to use existing, available information technology to electronically report data required by the National Pollutant Discharge Elimination System (NPDES) program instead of filing written paper reports. E-reporting necessitates major short-term investments to yield long term benefits.

Program Area	Performance Measures and Data									
(1) Maintain Enforcement Presence	Strategic Measure: By 2018, conduct 79,000 federal inspections and evaluations (5-year cumulative). (FY 2005-2009 baseline: 21,000 annually. Status for FY 2013: 18,000.)									
	(PM 409) Number of federal inspections and evaluations.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target			19,000	17,000	17,000	15,500	15,500	15,500	Inspections/ Evaluations
	Actual			20,000	18,000	16,000	15,400			
	<i>Explanation of Results:</i> The FY 2015 result is close but slightly lower than target. As EPA’s budget and travel funds have declined, the total number of inspections has declined as a result.									
<i>Additional Information:</i> FY 2005-2009 baseline: 21,000 annually.										

GOAL 5: PROTECTING HUMAN HEALTH AND THE ENVIRONMENT BY ENFORCING LAWS AND ASSURING COMPLIANCE

Strategic Measure: By 2018, initiate 14,000 civil judicial and administrative enforcement cases (5-year cumulative). (FY 2005-2009 baseline: 3,900 annually. Status for FY 2013: 2,400.)									
(PM 410) Number of civil judicial and administrative enforcement cases initiated.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			3,300	3,200	3,200	2,700	2,700	2,700	Cases
Actual			3,000	2,400	2,300				
<i>Additional Information:</i> FY 2005-2009 baseline: 3,900 annually.									
Strategic Measure: By 2018, conclude 13,600 civil judicial and administrative enforcement cases (5-year cumulative). (FY 2005-2009 baseline: 3,800 annually. Status for FY 2013: 2,500.)									
(PM 411) Number of civil judicial and administrative enforcement cases concluded.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			3,200	3,000	2,800	2,400	2,400	2,400	Cases
Actual			3,000	2,500	2,300	2,400			
<i>Additional Information:</i> FY 2005-2009 baseline: 3,800 annually.									
Strategic Measure: By 2018, maintain review of the overall compliance status of 100 percent of the open consent decrees. (Baseline 2009: 100 percent. Status for FY 2013: 91 percent.)									
(PM 412) Percentage of open consent decrees reviewed for overall compliance status.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			100	100	100	100	100	100	Percent
Actual			91	91	100	99			
<i>Explanation of Results:</i> The total number of consent decrees to be reviewed annually is small. Therefore, a small number of unreviewed consent decrees results in a noticeable percentage shortfall compared to the target.									
<i>Additional Information:</i> FY 2012 is the first year of collecting data for this measure.									

	Strategic Measure: Each year through 2018, support clean ups and save federal dollars for sites where there are no alternatives by: (1) reaching a settlement or taking an enforcement action before the start of a remedial action at 99 percent of Superfund sites having viable responsible parties other than the federal government; and, (2) addressing all cost recovery statute of limitation cases with total past costs greater than or equal to \$500,000. ((1) FY 2007-2009 annual average baseline: 99 percent of sites reaching a settlement or EPA taking an enforcement action. (2) FY 2009 baseline: 100 percent cost recovery statute of limitation cases addressed. (Status for FY 2013: 100 percent.))									
	(PM 078) Percentage of all Superfund statute of limitations cases addressed at sites with unaddressed past Superfund costs equal to or greater than \$500,000.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	100	100	100	100	100	100	100	100	Percent
	Actual	100	100	100	100	100	100			
	<i>Additional Information:</i> In FY 2009, the Agency addressed 100 percent of Cost Recovery at all NPL and non-NPL sites with total past costs equal to or greater than \$200,000. The threshold for this measure was increased from \$200,000 to \$500,000 in FY 2013 to focus prioritization efforts.									
	(PM 285) Percentage of Superfund sites having viable, liable responsible parties other than the federal government where EPA reaches a settlement or takes an enforcement action before starting a remedial action.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	95	95	99	99	99	99	99	99	Percent
	Actual	98	100	100	100	100	100			
<i>Additional Information:</i> In FY 1998 approximately 70 percent of new remedial work at NPL sites (excluding Federal facilities) was initiated by private parties. By FY 2003, that percentage had increased such that a settlement was reached or an enforcement action was taken with non-Federal PRPs before the start of the remedial action at approximately 90 percent of Superfund sites and now, in FY 2015, EPA reached a settlement or started an enforcement action at 100 percent of the non-Federal sites with viable PRPs.										
(2) Support Addressing Climate Change and Improving Air Quality	Strategic Measure: By 2018, reduce, treat, or eliminate 1,590 million estimated pounds of air pollutants as a result of concluded enforcement actions (5-year cumulative). (FY 2005-2008 baseline: 480 million pounds, annual average over the period. Status for FY 2013: 610 million pounds.)									
	(PM 400) Millions of pounds of air pollutants reduced, treated, or eliminated through concluded enforcement actions.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	480	480	480	450	350	310	310	300	Million Pounds
Actual	410	1,100	250	610	140	430				

	<p>Additional Information: FY 2005-2008 Average Baseline: 480 million pounds, annual average over the period. As OECA continues to make progress addressing large air pollution violators, such as utilities, OECA's future annual enforcement actions will be comprised of cases with significant public health impacts but a smaller number of pounds of pollution. We are increasingly focused on large sources of air toxics, where even small emissions reductions can have significant health benefits. We would therefore expect to see this total pounds measure go down in future years, as a combined result of success in addressing the largest sources and a focus on more toxic air pollutants.</p>									
(3) Support Protecting America's Waters	<p>Strategic Measure: By 2018, reduce, treat, or eliminate 1,280 million estimated pounds of water pollutants as a result of concluded enforcement actions (5-year cumulative). (FY 2005-2008 baseline: 320 million pounds, annual average over the period. Status for FY 2013: 660 million pounds.)</p>									
	<p>(PM 402) Millions of pounds of water pollutants reduced, treated, or eliminated through concluded enforcement actions.</p>									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	320	320	320	320	280	250	250	240	Million Pounds
	Actual	1,000	740	500	660	340	90			
	<p>Explanation of Results: Results for this measure are highly variable from year to year because they are driven by a small number of very large cases.</p> <p>Additional Information: FY 2005-2008 Average Baseline: 320 million pounds, annual average over the period. For FY 2010, two stormwater home builder actions contributed to more than half of the one billion pound pollutant reduction result. As we complete work on compliance agreements with the largest cities and begin to address non-compliance in smaller cities, the total pounds of pollution is expected to decline. This reduction will be a combined result of addressing some of the largest and most serious violations and putting those dischargers on a path to remediation, as well as our focus on other sources of water pollution that are smaller in number of pounds but very important to protecting water quality.</p>									
(4) Support Cleaning Up Communities and Advancing Sustainable Development	<p>Strategic Measure: By 2018, treat, minimize, or properly dispose of 14,600 million estimated pounds of hazardous waste as a result of concluded enforcement actions (5-year cumulative).(FY 2008 baseline: 6,500 million pounds. Status for FY 2013: 150 million pounds.)</p>									
	<p>(PM 405) Millions of pounds of hazardous waste reduced, treated, or eliminated through concluded enforcement actions.</p>									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	6,500	6,500	6,500	6,000	5,000	2,400	2,400	2,300	Million Pounds
	Actual	11,800	3,600	4,400	150	700	500			

	<p>Explanation of Results: Results for this measure are highly variable from year to year because they are driven by a small number of very large cases. This results in substantial variability in this measure from year to year. For example, one large case lodged but not entered in FY15 would have made this the largest year ever in pounds of hazardous waste addressed.</p> <p>Additional Information: Prior to FY 2016, this measure only included hazardous waste. Beginning in FY 2016, this measure will report (separately) both hazardous and non-hazardous waste subtotals addressed and remediated through EPA enforcement actions. Non-hazardous waste subtotals were previously included in PM 404. FY 2008 Baseline: 6,500 million pounds. The results for this measure are driven by a small number of very large cases and, therefore, can cause significant fluctuations in the results from year to year. For example, in FY 2010 over 99% of the total 11.75 billion pounds of hazardous waste reduced, treated, or eliminated came from two cases - CF Industries Inc. (9.87 billion pounds) and Exxon Mobil Oil Corporation (1.86 billion pounds). Given the types of cases that are nearing completion, OECA's shift in focus is expected to result in fewer millions of pounds of pollution reduced overall.</p> <p>Strategic Measure: By 2018, obtain commitments to clean up 1,025 million cubic yards of contaminated soil and groundwater media [4] as a result of concluded CERCLA and RCRA corrective action enforcement actions (5-year cumulative). (FY 2007-2009 baseline: 300 million cubic yards of contaminated soil and groundwater media, annual average over the period. Status for FY 2013: 750 million cubic yards.)</p> <p>(PM 417) Millions of cubic yards of contaminated soil and groundwater media EPA has obtained commitments to clean up as a result of concluded CERCLA and RCRA corrective action enforcement actions.</p> <table border="1" data-bbox="317 711 1980 846"> <thead> <tr> <th></th> <th>FY 2010</th> <th>FY 2011</th> <th>FY 2012</th> <th>FY 2013</th> <th>FY 2014</th> <th>FY 2015</th> <th>FY 2016</th> <th>FY 2017</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td>Target</td> <td></td> <td></td> <td>300</td> <td>275</td> <td>225</td> <td>200</td> <td>200</td> <td>200</td> <td rowspan="2">Million Cubic Yards</td> </tr> <tr> <td>Actual</td> <td></td> <td></td> <td>400</td> <td>750</td> <td>900</td> <td>70</td> <td></td> <td></td> </tr> </tbody> </table> <p>Explanation of Results: Results for this measure are highly variable from year to year because they are driven by a small number of very large cases. This results in substantial variability in this measure from year to year.</p> <p>Additional Information: FY 2007-2009 baseline: 300 million cubic yards of contaminated soil and groundwater media, annual average over the period. Contaminated groundwater media, as defined for the Superfund and RCRA corrective action programs, is the volume of physical aquifer (both soil and water) that will be addressed by the response action. The results for this measure are usually driven by a small number of very large cases, which can cause a significant fluctuation in results from year to year depending on the types of cases concluded in any given year. For example, in FY 2011 75% of the 937.4 million cubic yards of contaminated soil and groundwater media to be cleaned up under concluded CERCLA and RCRA corrective action enforcement actions came from one case. Additionally, the FY 2013 target was adjusted (from 300 to 275) to reflect decreases in contributing program project areas in the FY 2013 budget.</p>		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit	Target			300	275	225	200	200	200	Million Cubic Yards	Actual			400	750	900	70		
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit																					
Target			300	275	225	200	200	200	Million Cubic Yards																					
Actual			400	750	900	70																								
<p>(5) Support Ensuring the Safety of Chemicals and Preventing Pollution</p>	<p>Strategic Measure: By 2018, reduce, treat, or eliminate 14 million estimated pounds of toxic and pesticide pollutants as a result of concluded enforcement actions (5-year cumulative). (FY 2005-2008 baseline: 3.8 million pounds, annual average over the period. Status for FY 2013: 4.6 million pounds.)</p>																													

	(PM 404) Millions of pounds of toxic and pesticide pollutants reduced, treated, or eliminated through concluded enforcement actions.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit	
Target	3.8	3.8	3.8	3.0	2.5	2.3	2.3	2.3	Million Pounds	
Actual	8.3	6.1	1,400	4.6	41	10				
	<i>Additional Information:</i> Prior to FY 2016, this measure included non-hazardous wastes. Beginning in FY 2016, non-hazardous wastes addressed and remediated through EPA enforcement actions, which have been reported as part of this measure, will be reported as part of PM 405. FY 2005-2008 Average Baseline: 3.8 million pounds, annual average over the period. The results for this measure are usually driven by a small number of very large enforcement cases, which yielded the majority of the pounds addressed and can cause significant fluctuations in results from year to year, depending on the types of cases concluded in any given year. Note: the FY 2014 actual amount was decreased by 5 million pounds from previous submissions due to a reclassification of the pounds as hazardous waste (measure PM 405) instead of toxics.									
(6) Enhance Strategic Deterrence through Criminal Enforcement	Strategic Measure: By 2018, increase the percentage of criminal cases having the most significant health, environmental, and deterrence impacts to 45 percent. (FY 2010 baseline: 36 percent. Status for FY 2013: 44 percent.)									
	(PM 418) Percentage of criminal cases having the most significant health, environmental, and deterrence impacts.									
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target			43	43	43	45	45	45	Percent
	Actual			45	44	48	62			
		<i>Additional Information:</i> FY 2010 baseline: 36 percent.								
		Strategic Measure: By 2018, maintain 75 percent of criminal cases with an individual defendant. (FY 2006-2008 baseline: 75 percent.)								
		(PM 419) Percentage of criminal cases with individual defendants.								
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target			75	75	75	75	75	75	Percent
Actual			70	80	87	83				
	<i>Additional Information:</i> FY 2006-2008 baseline: 75 percent.									
	Strategic Measure: By 2018, increase the percentage of criminal cases with charges filed to 45 percent. (FY 2006-2010 baseline: 36 percent. Status for FY 2013: 38 percent.)									

(PM 420) Percentage of criminal cases with charges filed.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			40	40	40	45	45	45	Percent
Actual			44	38	39	38			
<i>Explanation of Results:</i> This result is within the expected annual variability for this measure.									
<i>Additional Information:</i> FY 2006-2010 baseline: 36 percent.									
Strategic Measure: By 2018, maintain an 85 percent conviction rate for criminal defendants. (FY 2006-2010 baseline: 85 percent. Status for FY 2013: 94 percent.)									
(PM 421) Percentage of conviction rate for criminal defendants.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			85	85	85	85	85	85	Percent
Actual			95	94	95	92			
<i>Additional Information:</i> FY 2006-2010 baseline: 85 percent.									

NPM: OFFICE OF RESEARCH AND DEVELOPMENT

Performance Measures and Data

(PM AC1) Percentage of products completed on time by Air, Climate, and Energy research program.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			100	100	100	100	100	100	Percent
Actual			100	92	87	87			

Explanation of Results: Explanation of Results: The Air, Climate and Energy Program met 87% of its planned products in FY 2015. Among the research not completed on time was: An inventory of wetland vulnerabilities based on integration of vulnerability assessment methods, resilience theory, and wetlands classifications (in 2014 the project was expanded to include data compilation, analysis and integration of an additional comparative wetland attribute into the larger framework, expanding the utility of the research; an internally reviewed journal is currently in revision for clearance); and; a final report of case study assessments of urban resilience to climate change (award of the contract was delayed 3 months; the report has gone through internal peer review and a final ERD was delivered August 31st and it is currently in process for clearance).

Additional Information: A research product is "a deliverable that results from a specific research project or task. Research products may require translation or synthesis before integration into an output ready for partner use." This secondary performance measure tracks the timely completion of research products. Working with its partners, each program develops a list of planned research products and their associated outputs. The list reflects high priority products the program plans to complete by the end of each fiscal year. The estimated completion date is based on when the output is needed for partner use and when the research products must be transformed into the output. The actual product completion date is self-reported. The program strives to complete 100% of its planned products each year so that it can best meet EPA and other partners' needs.

(PM AC2) Percentage of planned research outputs delivered to clients for use in taking action on climate change or improving air quality.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			100	100	100	100	100	100	Percent
Actual			77	83	92	74			

Explanation of Results: Two research outputs were completed late but in calendar year 2015: a report on multipollutant air toxic exposures and health effects; and a review of the mitigation and adaptation approaches in GHG. Two research outputs will be completed after 2015: performance of technology for gasification of solid wastes (EPA merged this research with a product that will be delivered in Q2 FY 2016); and coupled meteorology/hydrology system for improved linkage to watershed models capable of assessing implications of climate change on ecosystems (additional time needed to complete unexpectedly complex research). Four research outputs will not be completed: synthesis document on potential ecological and human health risks of pollen associated with cellulosic biofuel feedstock production (lack of publishable results); profiles of criteria and toxic emissions from ethanol-blend gasoline and biodiesel combustion and potential toxicity differences (challenges in hiring necessary expertise); final report detailing the side-by-side comparison of biogas management technologies (resource reductions); and studies on innovative approaches to addressing links between particulate matter exposures, composition, sources, and health effects (challenges in acquiring data and hiring necessary expertise).

Additional Information: Research outputs result from the translation or synthesis of one or more research products into the format compatible with the partner's decision needs. "Delivery of a research output" means that the output is transferred to ORD's research partner ready for the intended partner use. EPA identifies and describes the planned outputs in the program's Research Program Strategic Plan. At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that it can best meet EPA and other partners' needs. To ensure the ambitiousness of its annual output measures, ORD has better formalized the process for developing and modifying program outputs, including requiring that ORD programs engage partners when making modifications. Involving partners in this process helps to ensure the ambitiousness of outputs on the basis of partner utility.

(PM CS1) Percentage of planned research products completed on time by the Chemical Safety for Sustainability research program.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			100	100	100	100	100	100	Percent
Actual			100	100	100	100			
<p><i>Explanation of Results:</i> Explanation of Results: The Chemical Safety for Sustainability Program met 100% of its planned products in FY 2015.</p> <p><i>Additional Information:</i> A research product is "a deliverable that results from a specific research project or task. Research products may require translation or synthesis before integration into an output ready for partner use." This secondary performance measure tracks the timely completion of research products. Working with its partners, each program develops a list of planned research products and their associated outputs. The list reflects high priority products the program plans to complete by the end of each fiscal year. The estimated completion date is based on when the output is needed for partner use and when the research products are needed to be transformed into the output. The actual product completion date is self-reported. The program strives to complete 100% of its planned products each year so that it can best meet EPA and other partners' needs.</p>									
(PM CS2) Percentage of planned research outputs delivered to clients and partners to improve their capability to advance the environmentally sustainable development, use, and assessment of chemicals.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			100	100	100	100	100	100	Percent
Actual			50	100	100	100			
<p><i>Explanation of Results:</i> The Chemical Safety for Sustainability Program met 100% of its planned outputs in FY 2015.</p> <p><i>Additional Information:</i> Research outputs result from the translation or synthesis of one or more research products into the format compatible with the partner's decision needs. "Delivery of a research output" means that the output is transferred to ORD's research partner ready for the intended partner use. EPA identifies and describes the planned outputs in the program's Research Program Strategic Plan. At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that it can best meet EPA and other partners' needs. To ensure the ambitiousness of its annual output measures, ORD has better formalized the process for developing and modifying program outputs, including requiring that ORD programs engage partners when making modifications. Involving partners in this process helps to ensure the ambitiousness of outputs on the basis of partner utility.</p>									
(PM HC1) Percentage of planned research products completed on time by the Sustainable and Healthy Communities research program.									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			100	100	100	100	100	100	Percent
Actual			100	83	81	100			
<p><i>Explanation of Results:</i> Explanation of Results: The Sustainable and Healthy Communities Program met 100% of its planned products in FY 2015.</p> <p><i>Additional Information:</i> A research product is "a deliverable that results from a specific research project or task." Research products may require translation or synthesis before integration into an output ready for partner use. This secondary performance measure tracks the timely completion of research products. Working with its partners, each program develops a list of planned research products and their associated outputs. The list reflects high priority products the program plans to complete by the end of each fiscal year. The estimated completion date is based on when the output is needed for partner use and when the research products must be transformed into the output. The actual product completion date is self-reported. The program strives to complete 100% of its planned products each year so that it can best meet EPA and other partners' needs.</p>									

(PM HC2) Percentage of planned research outputs delivered to clients, partners, and stakeholders for use in pursuing their sustainability goals.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			100	100	100	100	100	100	Percent
Actual			50	68	100	50			

Explanation of Results: Explanation of Results: The Sustainable and Healthy Communities Program met 50% of its planned outputs in FY 2015. Among the research not completed on time was: Identification of the most prevalent environmental public health conditions in communities resulting in disparities in health and well-being between communities or populations for use in targeting and prioritizing research and generation of risk management methods (this output will not be delivered; it was adversely affected by a changeover in personnel in 2014; the new project plan has similar products and outputs that capture the research objectives for FY 2016 and FY 2017); and Implications of Decisions in Land Use, Transportation, Buildings, Infrastructure, Waste, and Materials Management on Community-Level Sustainability (expected completion is FY 2016 Q4).

Additional Information: Research outputs result from the translation or synthesis of one or more research products into the format compatible with the partner's decision needs. "Delivery of a research output" means that the output is transferred to ORD's research partner ready for the intended partner use. EPA identifies and describes the planned outputs in the program's Research Program Strategic Plan. At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that it can best meet EPA and other partners' needs. To ensure the ambitiousness of its annual output measures, ORD has better formalized the process for developing and modifying program outputs, including requiring that ORD programs engage partners when making modifications. Involving partners in this process helps to ensure the ambitiousness of outputs on the basis of partner utility.

(PM HS1) Percentage of planned research products completed on time by the Homeland Security research program.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			100	100	100	100	100	100	Percent
Actual			100	100	100	100			

Explanation of Results: The Homeland Security Research Program met 100% of its planned products in FY 2015.

Additional Information: A research product is "a deliverable that results from a specific research project or task." Research products may require translation or synthesis before integration into an output ready for partner use. This secondary performance measure tracks the timely completion of research products. Working with its partners, each program develops a list of planned research products and their associated outputs. The list reflects high priority products the program plans to complete by the end of each fiscal year. The estimated completion date is based on when the output is needed for partner use and when the research products must be transformed into the output. The actual product completion date is self-reported. The program strives to complete 100% of its planned products each year so that it can best meet EPA and other partners' needs.

(PM HS2) Percentage of planned research outputs delivered to clients and partners to improve their capabilities to respond to contamination resulting from homeland security events and related disasters.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			100	100	100	100	100	100	Percent
Actual			78	100	100	100			

Explanation of Results: The Homeland Security Research Program met 100% of its planned outputs in FY 2015.

Additional Information: Research outputs result from the translation or synthesis of one or more research products into the format compatible with the partner's decision needs. "Delivery of a research output" means that the output is transferred to ORD's research partner ready for the intended partner use. EPA identifies and describes the planned outputs in the program's Research Program Strategic Plan. At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that it can best meet EPA and other partners' needs. To ensure the ambitiousness of its annual output measures, ORD has better formalized the process for developing and modifying program outputs, including requiring that ORD programs engage partners when making modifications. Involving partners in this process helps to ensure the ambitiousness of outputs on the basis of partner utility.

(PM RA1) Percentage of planned research products completed on time by the Human Health Risk Assessment research program.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			100	100	100	100	100	100	Percent
Actual			100	88	80	45			

Explanation of Results: Explanation of Results: The Human Health Risk Assessment Program met 45% of its planned products in FY 2015. Among the research not completed on time was: Submit to Interagency review at least 5 drafts for public comment from the following list— diethyl phthalate (DEP), diisononyl phthalate (DINP), hexabromocyclododecane (HBCD), inorganic arsenic (iAs), or others (delay in finalization of IRIS Multi-Year Agenda and inconsistent information from program offices led to unclear prioritization regarding the importance of completing phthalates; in addition, developing a new IRIS Handbook, hosting public science meetings, and increasing the number of workshops being conducted by NCEA, provides a significant additional drain on the limited pool of people who both develop and review assessments); submit to Interagency review at least 4 external review drafts from the following: ethyl tert-butyl ether (ETBE); hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX); n-butanol, or others (delayed due to implementation of new ERC review step); release of 1st external review draft for SOx health (primary) ISA (delay per OAR request due to shift in regulatory schedule, expected completion is Q1 FY 2016); and release of first external review draft of the ecological (secondary welfare) ISA for NOx/Sox (delay per OAR request due to shift in regulatory schedule, expected completion is Q3 FY 2016).

Additional Information: A research product is "a deliverable that results from a specific research project or task." Research products may require translation or synthesis before integration into an output ready for partner use. This secondary performance measure tracks the timely completion of research products. Working with its partners, each program develops a list of planned research products and their associated outputs. The list reflects high priority products the program plans to complete by the end of each fiscal year. The estimated completion date is based on when the output is needed for partner use and when the research products must be transformed into the output. The actual product completion date is self-reported. The program strives to complete 100% of its planned products each year so that it can best meet EPA and other partners' needs.

(PM RA2) Percentage of planned research outputs delivered to clients and partners for use in informing human health decisions.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			100	100	100	100	100	100	Percent
Actual			38	100	67	60			

Explanation of Results: Explanation of Results: The Human Health Risk Assessment Program met 60% of its planned outputs in FY 2015. Among the research not completed on time was: Post at least 4 final assessments from the following on Libby Amphibole asbestos, Vanadium pentoxide, Ammonia, Trimethylbenzenes, or others (output partially met, completed final assessment on Libby amphibole asbestos; and release of final document of the updated primary health ISA for NOx (delay per program office request due to shift in regulatory schedule).

Additional Information: Research outputs result from the translation or synthesis of one or more research products into the format compatible with the partner's decision needs. "Delivery of a research output" means that the output is transferred to ORD's research partner ready for the intended partner use. EPA identifies and describes the planned outputs in the program's Research Program Strategic Plan. At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that it can best meet EPA and other partners' needs. To ensure the ambitiousness of its annual output measures, ORD has better formalized the process for developing and modifying program outputs, including requiring that ORD programs engage partners when making modifications. Involving partners in this process helps to ensure the ambitiousness of outputs on the basis of partner utility.

(PM RA6) Number of regulatory decisions in which decision-makers used HHRA peer-reviewed assessments (IRIS, PPRTVs, exposure assessments and other assessments)

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target				20	20	20	20	20	Number
Actual				140	100	100			

Additional Information: The measure calculates the number of Agency regulatory decisions for which clients use HHRA peer-reviewed health assessments. The measure is calculated by reviewing regulatory decisions and Records of Decision (ROD) made by EPA, determining how many quantitative health assessment values were used in these EPA program decisions, and what percentage of these values had been developed by the HHRA Program. This measure was piloted in FY 2013 and FY 2014 and was based on available information for FY 2010 that is unlikely to be reproducible. The feasibility of reliably reporting this measure is contingent upon timely completion of the overhaul of the Agency ROD database. This restructured database will not be available for analysis until approximately 2 years after decisions are recorded and will start with FY 2011 RODs. We will evaluate the feasibility of this measure over 3 years with FY 2012 & 2013 data being reported in FY 2015 & FY 2016, respectively.

(PM RA7) Annual milestone progress score for completing draft IRIS health assessments.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			50	50	40	40	40	40	Score
Actual			8	17	30	7			

Explanation of Results: Delay in finalization of the IRIS multi-year agenda led to delays in initiating new IRIS assessments. In addition, significant resources assigned to major assessments (e.g., arsenic, formaldehyde), staff reductions, and commitment of resources to develop an IRIS Handbook and to host public science meetings on critical science issues, resulted in reduced performance.

Additional Information: At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that includes such factors as client interest, complexity of science, and level of effort required. Points are scored by multiplying the weight of each assessment by the number of milestones completed in the assessment process. The program targets represent a steady and timely completion of draft assessments throughout each fiscal year. Near-term targets are based on the large volume of ongoing assessments that have not been released in draft due to the change in the process for external review. This measure will be assessed as a rolling average with potential annual excess rolled over to the next target year so as to provide incentives for completion of more milestones.

(PM RA8) Annual progress score for finalizing IRIS health assessments.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			20	20	15	15	15	15	Score
Actual			17	8	0	5			

Explanation of Results: Explanation of Results: A major assessment, the Libby amphibole asbestos IRIS assessment, was completed in FY 2015. No other final IRIS assessment postings were possible due to delays in receiving final SAB Chemical Assessment Advisory Committee (CAAC) reports on ammonia and trimethylbenzenes (panels were held in Summer, 2014 but did not report until late FY 2015), and vanadium pentoxide was deferred to a more comprehensive evaluation of vanadium compounds.

Additional Information: This measure tracks the program's ability to make progress in finalizing and releasing IRIS assessments. The annual score, tracked cumulatively throughout the year, is based on the relative weighting of each chemical. Chemicals are weighted using a 3-tier system that includes client interest, complexity of science, and level of effort required. Points are scored by multiplying the weight of each assessment by the number of milestones completed in the assessment process. The program targets represent a steady and timely completion of final assessments throughout each fiscal year. Near-term targets are based on the large volume of ongoing assessments that have not been finalized due to the change in the process for external review and completion. This measure will be assessed as rolling average.

(PM SW1) Percentage of planned research products completed on time by the Safe and Sustainable Water Resources research program.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			100	100	100	100	100	100	Percent
Actual			86	70	90	100			

Explanation of Results: The Safe and Sustainable Water Resources Program met 100% of its planned products in FY 2015.

Additional Information: A research product is "a deliverable that results from a specific research project or task." Research products may require translation or synthesis before integration into an output ready for partner use. This secondary performance measure tracks the timely completion of research products. Working with its partners, each program develops a list of planned research products and their associated outputs. The list reflects high priority products the program plans to complete by the end of each fiscal year. The estimated completion date is based on when the output is needed for partner use and when the research products are needed to be transformed into the output. The actual product completion date is self-reported. The program strives to complete 100% of its planned products each year so that it can best meet EPA and other partners' needs.

(PM SW2) Percentage of planned research outputs delivered to clients and partners to improve the Agency's capability to ensure clean and adequate supplies of water that support human well-being and resilient aquatic ecosystems.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			100	100	100	100	100	100	Percent
Actual			50	100	100	100			

Explanation of Results: The Safe and Sustainable Water Resources Program met 100% of its planned outputs in FY 2015.

Additional Information: Research outputs result from the translation or synthesis of one or more research products into the format compatible with the partner's decision needs. "Delivery of a research output" means that the output is transferred to ORD's research partner ready for the intended partner use. EPA identifies and describes the planned outputs in the program's Research Program Strategic Plan. At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that it can best meet EPA and other partners' needs. To ensure the ambitiousness of its annual output measures, ORD has better formalized the process for developing and modifying program outputs, including requiring that ORD programs engage partners when making modifications. Involving partners in this process helps to ensure the ambitiousness of outputs for partner utility.

ENABLING AND SUPPORT PROGRAMS
 NPM: OFFICE OF ADMINISTRATION AND RESOURCES MANAGEMENT

Performance Measures and Data

(PM 009) No reduction in percentage of certified acquisition staff (1102).

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			335 / 80	323 / 80	85	85	85	85	Number/ Percent
Actual			323/85	285 / 85	93	95			

Additional Information: As of October 1, 2015, there were 263 acquisition (1102) staff on board, of which 249 (95%) were certified. OARM will continue to strive to ensure that at least 85% of current 1102 staff are trained and certified.

(PM 010) Reduction in Greenhouse Gas (GHG) Scopes 1 & 2 emissions below 2008 baseline.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1.0	0.4	6.4	12.2	16.3	16.3	20.1	23.0	Percent
Actual	79.5	59	54.1	57.4	59.5	Data Avail 02/2016			

Additional Information: On March 19, 2015, the President signed Executive Order (EO) 13693, "Planning for Federal Sustainability in the Next Decade," which requires agencies to set new targets for reducing absolute greenhouse gas emissions by FY 2025 compared to the existing FY 2008 baseline. EPA's FY 2008 GHG emissions baseline is 142,010 metric tons of carbon dioxide equivalents (MTCO_{2e}). Targets were developed based on estimates of future absolute Scope 1 and 2 GHG emissions. Between FY 2010 and FY 2014, the Agency was able to purchase Renewable Energy Certificates to offset a significant portion of Agency emissions, resulting in the actuals for those years. Absolute values for that time period were 1.6, 0.9, 7.5, 14.3, and 16.5, respectively.

(PM 098) Reduction in energy consumption below 2003 baseline.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	15	18	21	24	27	27	32.5	35	Percent
Actual	18.3	18.1	23.7	25.6	28.9	Data Avail 02/2016			

Additional Information: On March 19, 2015, the President signed Executive Order (EO) 13693, "Planning for Federal Sustainability in the Next Decade," which requires agencies to reduce energy consumption by 2.5 percent annually from FY 2016 through FY 2025 based on a new FY 2015 baseline. Prior to FY 2016, reductions were compared to the EPA's FY 2003 energy consumption baseline (398,315 British thermal units (Btu) per gross square foot (GSF)). For the sake of consistency on this reporting measure, the EPA will maintain the 2003 baseline.

NPM: OFFICE OF ENVIRONMENTAL INFORMATION

Performance Measures and Data

(PM 052) Number of major EPA environmental systems that use the CDX electronic requirements enabling faster receipt, processing, and quality checking of data.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	60	60	67	75	80	77	80	90	Systems
Actual	60	64	68	73	89	107			

Additional Information: The Central Data Exchange program began in FY 2001 to enable States, Tribes and others to send environmental data to EPA through a centralized electronic process. The CDX program estimates its targets as the sum of new systems using CDX services (increase) and retirement of older systems that are being phased out (decrease). As a result, these cumulative targets may increase or decrease in subsequent years.

(PM 053) States, tribes and territories will be able to exchange data with CDX through nodes in real time, using standards and automated data-quality checking.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	65	65	80	95	98	103	140	140	Users
Actual	69	72	92	97	102	104			

Additional Information: The Central Data Exchange program began in FY 2001 to enable States, Tribes and others to send environmental data to EPA through a centralized electronic process.

(PM 998) EPA's TRI program will work with partners to conduct data quality checks to enhance accuracy and reliability of environmental data.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target				500	500	600	600	600	Quality Checks
Actual				600	600	600			

Additional Information: This metric allows EPA for the first time to report on performance of the Toxics Release Inventory (TRI) program. Data checks will improve the accuracy and reliability of environmental data.

(PM 999) Total number of active unique users from states, tribes, laboratories, regulated facilities and other entities that electronically report environmental data to EPA through CDX.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		Baseline Year	58,000	70,000	75,000	84,000	90,000	100,000	Users
Actual		56,200	65,238	79,818	96,000	85,894			

Additional Information: This metric replaced PM 054 which was discontinued in FY 2011. PM 054 measured the number of users from states, tribes, laboratories and other entities that chose CDX to report environmental data electronically to EPA. The replacement measure PM 999 measures the total number of active, individual CDX users and more accurately measures CDX usage by screening out inactive users and multiple accounts from the same user. (Only users who have logged in within the previous two years are counted as active users, and each distinct user is counted only once regardless of the number of different accounts, roles or locations.)

NPM: OFFICE OF THE INSPECTOR GENERAL

Performance Measures and Data

(PM 35A) Environmental and business actions taken for improved performance or risk reduction.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	334	334	334	307	248	268	268	274	Actions
Actual	391	315	216	215	324	296			

Explanation of Results: Results are based on completed agency actions. In FY 2015, the agency completed 296 actions to satisfy OIG recommendations.

Additional Information: This measure captures implemented corrective actions taken by the agency to improve EPA programs and/or processes. The implemented corrective actions are based on OIG recommendations. The average time to complete corrective actions on OIG recommendations is 2.3 years. As such, results are typically from prior years and may fluctuate depending on the agency's ability to complete agreed-upon corrective actions. The target for this measure is developed by taking the actual performance for two or three fiscal years and adjusted to reflect any significant changes in enacted budget that could accelerate or hinder performance.

(PM 35B) Environmental and business recommendations or risks identified for corrective action.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	903	903	903	786	687	967	1,094	1,094	Recommendations
Actual	945	2011	1242	1003	944	1110			

Additional Information: This measure captures the number of OIG outputs (recommendations, briefings, best practices identified, etc.) during the fiscal year. The target reflects the average of actual performance for two or three fiscal years and is adjusted to reflect any significant changes in enacted budget that could accelerate or hinder performance.

(PM 35C) Return on the annual dollar investment, as a percentage of the OIG budget, from audits and investigations.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	120	120	110	125	132	220	220	220	Percent
Actual	36	151	743	248	734	1656			

Explanation of Results: A significant portion of ROI came from cost saved / avoided (\$595 million).

Additional Information: Results under this measure identify the potential return on investment and do not include actual recoveries. The OIG's role is to question cost and identify cost efficiencies and funds put to better use (recommended efficiencies). In FY 2012 and FY 2014 the OIG issued a single report with usually high recommended efficiencies (FY 2012-\$372M; FY 2014-\$230M). These were excluded from the average calculations given that reports with massive ROI do not materialize every year.

(PM 35D) Criminal, civil, administrative, and fraud prevention actions.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	75	80	85	90	125	175	145	145	Actions
Actual	115	160	152	256	213	304			

Additional Information: This measure captures criminal, civil, and administrative actions as a result of OIG investigations on fraud, waste and abuse. To a large extent, results are influenced by factors outside the control of OIG (judges, juries, etc.).

PROGRESS ACHIEVED UNDER EPA'S CROSS-AGENCY STRATEGIES

The table below summarizes progress longer term which the Environmental Protection Agency has achieved under each of the four cross-agency strategies established in its *FY 2014-2018 EPA Strategic Plan*. More detailed FY 2015 performance results for each strategy are available in [FY 2015 "At-a-Glance" documents](#).

Working Toward a Sustainable Future—Advance sustainable environmental outcomes and optimize economic and social outcomes through Agency decisions and actions, which include expanding the conversation on environmentalism and engaging a broad range of stakeholders.

Performance under the Sustainability strategy is progressing as planned toward the long-term vision established in EPA's Strategic Plan. The Agency is focusing on four cross-program priority areas: Green Products, Green Infrastructure, Sustainable Materials Management, and Energy Efficiency. EPA issued guidance to contracting officers updating and clarifying information on purchasing environmentally preferable electronic equipment, helping the Agency continue to meet the federal acquisition 95 percent Green Products purchasing government-wide requirement. Working with seven federal agencies and the Council for Environmental Quality (CEQ), EPA developed the Green Infrastructure Collaborative to advance federal commitments to green infrastructure. In sustainable materials management, EPA took actions to reduce food waste that resulted in 375,000 tons of food diverted from landfills. Similar efforts under the Electronics Challenge increased electronic waste collection by 7.5 percent among participants. EPA has produced a set of 30 sustainability videos to engage and empower EPA staff. The videos demonstrate incorporation of sustainability into EPA's daily work using concrete examples. EPA also launched a platform for discussion and sharing of information and resources through an Agency-wide Sustainability Community of Practice site. To expand the conversation on environmentalism, EPA collaborated with CEQ, the Office of Management and Budget, the Department of Energy, and the General Services Administration to finalize Executive Order 13693 to cut federal greenhouse gas emissions. To make progress in this area and lead by example, EPA coordinated the Federal Green Challenge to challenge all federal agencies across the nation to reduce waste, water, and electricity usage.

Working to Make a Visible Difference in Communities—Align community-based activities to provide seamless assistance to communities, both urban and rural, while maximizing efficiency and results. Expand support of community efforts to build healthy, sustainable, green neighborhoods and reduce and prevent harmful exposures and health risks to children and underserved, overburdened communities.

In 2015, the Communities strategy progressed as planned toward the vision established in EPA's Strategic Plan, focusing on four areas: Target Communities, Community Resource Network, Empower Communities, and Tools. EPA's regional offices identified 50 overburdened and underserved communities and have begun delivering focused and coordinated to help address the pressing environmental issues they identified. EPA created a single Agency-wide Community Resource Network, with representation from national program and regional offices. The Network is using SharePoint to provide staff working in communities with access to a wide range of resources and peer contact. EPA incorporated Next Gen monitoring tools (e.g., air and water sensors) in five negotiated enforcement settlements, eight permits, and one Administrative Order in FY 2015. EPA finalized and launched a single landing page for communities on the Agency website. The Agency has released an interactive tool that will provide communities with ready access to EPA's resources and tools related to green infrastructure/stormwater management/integrated planning.

Launching a New Era of State, Tribal, Local, and International Partnerships—Strengthen partnerships with states, tribes, local governments, and the global community that are central to the success of the national environmental protection program through consultation, collaboration, and shared accountability. Modernize the EPA-state relationship, including revitalizing the National Environmental Performance Partnership System and jointly pursuing E-Enterprise, a transformative approach to make environmental information and data more accessible, efficient, and evidence-based through advances in monitoring, reporting, and information technology.

Performance under the Partnerships strategy is progressing as planned toward achieving the vision in EPA's Strategic Plan by focusing on the central role partnerships play in the success of the nation's environmental protection system. The Agency has successfully collaborated with its state, local, tribal, and international partners on several fronts and is beginning to see some positive early results. Over the last two years EPA has conducted an unprecedented level of consultation and outreach during development of key regulations, such as the Clean Water Rule and Clean Power Plan, and taken concrete steps to improve implementation of EPA's tribal consultation policy. The Agency has also made significant progress on building E-Enterprise for the Environment and making the National Environmental Performance Partnership System (NEPPS) more useful and effective for states and tribes. To enhance NEPPS, EPA collaborated with states and tribes to increase state and tribal involvement in the development of national priorities; institute a new 2-year planning horizon for National Program Manager (NPM) Guidances and many related programmatic grant guidances; develop a new grants policy and revise an existing policy to promote greater support for and use of Performance Partnership Grants and multiyear grant workplans as a means to increase flexibility and administrative efficiency; and work with states on a set of principles for efficient and effective oversight. Progress on E-Enterprise for Environment included completing the Integrated Management Plan and incorporating E-Enterprise projects and avenues for participation in the FY2016-2017 NPM Guidances. In addition, the Agency completed Phase 1 of the E-Enterprise Portal, designed to enhance services to the regulated community and the public and improve transparency, priority-setting, and program performance. EPA is also meeting targets for establishing EPA-Tribal Environmental Plans (ETEPs) with each tribe, and has begun work to incorporate the Agency's tribal identification data standard into select systems that did not have it. In the international arena, EPA has successfully leveraged its membership on the Commission for Environmental Cooperation and the Arctic Council to develop and implement cooperative projects to address various impacts of climate change.

Embracing EPA as a High-Performing Organization—Maintain and attract EPA's diverse and engaged workforce of the future with a more collaborative work environment. Modernize our business practices, including through E-Enterprise, and take advantage of new tools and technologies. Improve the way we work as a high-performing Agency by ensuring we add value in every transaction with our workforce, our co-regulators, our partners, industry, and the people we serve.

Performance under the HPO strategy is progressing as planned toward achieving the long-term vision established in the EPA's Strategic Plan, focusing on two distinct areas: fostering employee development and streamlining business practices. Demonstrated progress to develop employees includes launching and sustaining the Skills Marketplace Program, providing training to first-line supervisors on human resource and financial management responsibilities, developing an online toolkit to identify best practices to enhance employee diversity and inclusion, and establishing a Senior Executive Service (SES) Candidate Development Program (CDP). In FY 2016, EPA will continue to build EPA University (EPA-U) to improve employee

access to training opportunities, as well as launch a second SES CDP recruitment. EPA is streamlining and modernizing business processes by implementing Lean activities across the Agency and improving IT systems, including migrating legacy databases from Lotus Notes to applications available through Microsoft Office 365. As it moves into FY 2016, EPA will continue to invest in technology improvements, ensuring employees have the tools and training to do their work.

VERIFICATION/VALIDATION OF PERFORMANCE DATA

The agency develops Data Quality Records (DQRs) to present validation/verification information for selected performance measures and information systems, consistent with guidance from the Office of Management and Budget. A DQR documents the management controls, responsibilities, quality procedures, and other metadata associated with the data lifecycle for individual performance measures, and is intended to enhance the transparency, objectivity, and usefulness of the performance result. EPA's program offices choose the measures for which to develop DQRs, consistent with the agency's goal to document quality procedures associated with at least one budget measure under each strategic measure in the Eight-Year Performance Array, a goal which has now been achieved. Each DQR can be considered current as of the most recent date for which the agency has published results for the performance measure. All of EPA's current DQRs are available in PDF format at the following URL: <http://www.epa.gov/planandbudget/archive#dqr>. (If this link does not work, please copy and paste the URL directly into your browser.)

Please note the PDF file includes DQRs that reference supporting documents, which are available upon request by sending an email with the name of the document and DQR to OCFOINFO@epa.gov. The email should indicate the measure number and text associated with the DQR, and the filename shown underneath the icon for the attachment.

**Environmental Protection Agency
2017 Annual Performance Plan and Congressional Justification**

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COORDINATION WITH OTHER FEDERAL AGENCIES

Environmental Programs

Goal 1- Addressing Climate Change and Improving Air Quality

Objective: Address Climate Change

To support the President's Climate Action Plan and to carry out a diverse range of regulatory and partnership programs that address climate change, the EPA works with a number of other federal agencies, including the Department of Energy (DOE), the Department of Agriculture (USDA), the Department of Housing and Urban Development (HUD), Department of State (DOS), the U.S. Agency for International Development (USAID), the Department of the Interior (DOI), the Federal Energy Regulatory Commission (FERC), and the Department of Transportation (DOT) These agencies collectively work to safeguard against duplicative efforts.

Climate protection partnership programs, government-wide, stimulate the development and use of renewable energy technologies, energy efficient products, and other strategies that will help reduce greenhouse gas (GHG) emissions. The effort is led by the EPA and DOE with significant involvement from the USDA, HUD, and the National Institute of Standards and Technology (NIST).

Agencies throughout the government make significant contributions to the climate protection programs. For example:

- DOE pursues actions such as promoting the research, development, and deployment of advanced technologies (for example, renewable energy sources).
- The Treasury Department may administer tax incentives for specific investments that will reduce emissions.
- The EPA responded to the President's directive to work with the National Highway Traffic Safety Administration (NHTSA) to develop a coordinated national program establishing standards to improve fuel efficiency and reduce GHG emissions for light-duty vehicles for model years 2017 and later. As a follow-up of this rulemaking, the two agencies will be working together on the coordination of a technology review in preparation for the implementation of these standards. In addition, the EPA and NHTSA are working together to finalize a second phase of GHG and fuel economy standards for heavy-duty vehicles. The EPA is broadening its public information around transportation choices campaign as a joint effort with the Department of Transportation (DOT). Aspects of this coordination are reflected in the EPA's FY 2016-2017 Agency Priority Goal to reduce greenhouse gas emissions from vehicles and trucks. Specifically, through September 30, 2017, the EPA, in coordination with Department of Transportation's fuel economy and fuel consumption standards programs, will implement vehicle and commercial truck greenhouse gas standards with a focus on industry compliance to ensure the significant reductions in greenhouse gases and oil consumption called for under the standards are realized.

The 2009 ENERGY STAR Memorandum of Understanding (MOU), signed by the EPA and DOE, defines clear lines of responsibility between the agencies that build upon and leverage their respective areas of expertise and outlines a number of program enhancements that will drive greater efficiency for American consumers and greater efficiency in homes and buildings. As part of the MOU, the EPA and DOE develop an annual work plan detailing key work across the two agencies and highlighting their cooperative work on energy efficiency in commercial and residential buildings and the products and equipment that go into these buildings.

The EPA also works primarily with State, USAID, and DOE as well as with regional organizations in implementing climate-related programs and projects. The EPA also works with the U.S. Trade Representative (USTR), Treasury, Commerce, and others to reduce the environmental impacts of international trade, shape environmental criteria for international finance and investment, and leverage opportunities to jointly advance U.S. environmental and economic goals. In addition, the EPA partners with international organizations such as the United Nations Environment Programme, the United Nations Development Programme, the United Nations Economic Commission for Europe, the International Energy Agency, the Organization for Economic Cooperation and Development (OECD), the World Bank, the Asian Development Bank, and countries including Canada, Mexico, Europe, and Japan. The EPA also has created a national workgroup with representatives of Tribal environmental departments and governments to help ensure Tribal governments are included in the dialogue with federal agencies on climate change adaptation strategies.

In our efforts to address GHG emissions from ocean-going vessels and aircraft, the EPA continues to participate and lead discussions within the International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO) to develop GHG standards. In the maritime sector, the EPA collaborates with the Coast Guard (USCG) and other nations, such as Mexico and Canada. In the aviation area, the EPA collaborates with the Federal Aviation Administration (FAA).

An example of the EPA's coordination with other federal agencies, as well as international partners, is the Global Methane Initiative (GMI). GMI is an international public-private initiative that advances cost-effective, near-term methane recovery and use as a clean energy source in four sectors: agriculture, coal mines, landfills, and oil and gas systems. These projects reduce greenhouse gas emissions in the near term and provide a number of important environmental and economic co-benefits. There are over 40 partner countries and over 1,000 members of the Project Network, including private sector, nongovernmental organizations, and multilateral organizations such as the World Bank, the Asian Development Bank, and the Inter-American Development Bank. The EPA is the lead agency from the U.S. Government and coordinates with Department of State, DOE, USDA, USAID, and the U.S. Trade and Development Agency.

Research

The Agency coordinates its global change research with other federal agencies through the U.S. Global Change Research Program (USGCRP).¹ EPA research, coordinated under the USGCRP, includes work with the U.S. Geological Survey, the U.S. Fish and Wildlife Service, and the Army

¹ For more information, see <http://www.globalchange.gov/>.

Corps of Engineers to study the impacts of climate change on estuarine ecosystems. The EPA's global change research efforts focus on understanding the impacts of climate change to air quality, water quality, and aquatic ecosystems, and includes efforts to improve models that address air and water pollution formation and transport in the context of a changing climate. These modeling efforts require close coordination with other agencies to use the results of global-scale models as input to more detailed regional models that describe pollutant formation and transport at levels needed by local and state resource managers. This work includes research to better understand the emissions, transport, and impacts to health and climate of black carbon. Additional coordination of global change research occurs through the National Science and Technology Council's Committee on Environment and Natural Resources and Sustainability (CENRS) Subcommittee on Water Availability and Quality.

Objective: Improve Air Quality

The EPA cooperates with other federal, state, Tribal, and local agencies to achieve goals related to ground level ozone and particulate matter (PM) and to ensure the actions of other agencies do not interfere with state plans for attaining and maintaining the National Ambient Air Quality Standards (NAAQS). The EPA works with the USDA on land use issues. The EPA also continues to work closely with the USDA, the Department of the Interior (DOI), and the Department of Defense (DOD) in developing a policy that addresses prescribed burning at silviculture and agricultural operations. An MOU with USDA is in place to work on issues of mutual concern impacting agriculture and air quality. In addition to coordination with other federal agencies through the interagency regulatory review process, the EPA has consulted with the Federal Energy Regulatory Commission about potential impacts of stationary internal combustion engine regulations on electric grid reliability, the bulk power system, municipal utilities, and rural electric cooperatives. The EPA, DOT, and the Army Corps of Engineers (ACE) work with state and local agencies to integrate transportation and air quality plans, reduce traffic congestion, and promote livable communities. The Federal Highway Administration also worked with the EPA to provide guidance for deploying a near-road air monitoring network to protect the health of those working and living near the nation's major highways. The EPA works with the U.S. Forest Service, Centers for Disease Control (CDC), and the National Institute for Environmental Health Sciences (NIEHS) to reduce PM emissions from residential wood smoke and to provide health information. In addition, to promote awareness of ground level ozone and particulate matter, the EPA's School Flag and EnviroFlash programs coordinate with the Department of Education (DoEd) on the Green Ribbon Schools initiative to promote air quality educational resources for students and teachers K-12. The EPA continues to work with the DOI, National Park Service (NPS), and U.S. Forest Service in implementing its regional haze program and operating the Interagency Monitoring of Protected Visual Environments (IMPROVE) visibility monitoring network. The operation and analysis of data produced by this air monitoring system is an example of the close coordination of efforts between the EPA and state and Tribal governments. The EPA also consults with the DOI's Fish and Wildlife Service (FWS) and NOAA's National Marine Fisheries Service (NMFS) on the potential impact of federally permitted actions on endangered species.

For pollution assessments and transport, the EPA is working with the National Aeronautics and Space Administration (NASA) on technology transfer using satellite imagery. The EPA will work to further distribute NASA satellite products and NOAA air quality forecast products to states,

local agencies, and tribes to provide a better understanding of air quality on a day-to-day basis and to assist with air quality forecasting. The EPA works with NASA to develop a better understanding of PM formation using satellite data. The EPA works with the Department of the Army on advancing emission measurement technology and with NOAA for meteorological support for our modeling and monitoring efforts. The EPA collects real-time ozone and particulate matter (PM) measurements from state and local agencies, which are used by both NOAA and the EPA to improve and verify Air Quality Forecast models.

The EPA's AIRNow program (the national real-time Air Quality Index reporting and forecasting system) works with the National Weather Service (NWS) to coordinate NOAA air quality forecast guidance with state and local agencies for air quality forecasting efforts and to render the NOAA model output in the EPA Air Quality Index (AQI), which helps people determine appropriate air quality protective behaviors. In wildfire situations, the EPA and the U.S. Forest Service (USFS) work closely with states to deploy monitors and report monitoring information and other conditions on AIRNow. The EPA also works with USFS by providing new science on the impacts of smoke on health to inform smoke management practices and intervention strategies to reduce health impacts. The AIRNow program also collaborates with the NPS and the USFS in receiving air quality monitoring observations, in addition to observations from over 130 state, local, and Tribal air agencies. AIRNow also collaborates with NASA in a project to incorporate satellite data with air quality observations.

To better understand the magnitude, sources, and causes of mobile source pollution, the EPA works with the DOE and DOT to fund applied research projects. A program to characterize exhaust emissions from light-duty gasoline vehicles is co-funded by DOE and DOT. Other DOT mobile source projects include TRANSIMS (TRansportation ANalysis and SIMulation System) and other transportation modeling projects. DOE is funding these projects through the National Renewable Energy Laboratory. The EPA also works closely with DOE on refinery cost modeling analyses and the development of clean fuel programs. For mobile sources program outreach, the agency is participating in a collaborative effort with DOT's Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) to educate the public about the impacts of transportation choices on traffic congestion, air quality, and human health. This community-based public education initiative also includes the CDC. The EPA also works with FHWA to develop and deliver training on modeling emissions from cars and trucks. In addition, the EPA is working with DOE to identify opportunities in the Clean Cities program. The EPA also works with other federal agencies, such as the U.S. Coast Guard (USCG), on air emission issues. Other programs targeted to reduce air toxics from mobile sources are coordinated with DOT. These partnerships can involve policy assessments and toxic emission reduction strategies in different regions of the country. The EPA continues to work with DOE, DOT, and other agencies, as needed, on the requirements of the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007.

To develop air pollutant emission factors and emission estimation algorithms for aircraft, ground equipment, and military vehicles, the EPA partners with the DOD. This partnership will provide for the joint undertaking of air-monitoring/emission factor research and regulatory implementation.

To address criteria pollutant emissions (such as nitrogen oxide (NO_x) and PM) from marine and aircraft sources, the EPA works collaboratively with IMO and ICAO, as well as with other federal agencies, such as USCG and the FAA. The EPA also has been collaborating with the USCG in the implementation of Emission Control Area (ECA) around the United States, and with Mexico and Canada in the Commission for Environmental Cooperation to evaluate the benefits of establishing a Mexican ECA.

The EPA also works closely with other health agencies such as the CDC, NIEHS, and the National Institute for Occupational Safety and Health (NIOSH) on health risk characterization for both toxic and criteria air pollutants.

The EPA also contributes air quality data to the CDC's Environmental Public Health Tracking Program, which is made publicly available and used by state and local public health agencies. To assess atmospheric deposition and characterize ecological effects, the EPA works with NOAA, FWS, the NPS, the U.S. Geological Survey (USGS), the USDA, and the U.S. Forest Service (USFS).

The EPA has worked extensively with the Department of Health and Human Services (HHS) on the National Health and Nutritional Evaluation Study to identify mercury accumulations in humans. The EPA also has worked with DOE on the Fate of Mercury study to characterize mercury transport and traceability in Lake Superior. The EPA is a partner with the CDC in the development of the National Environmental Public Health Tracking Network, providing air quality indicators as well as air pollution health effects expertise.

To improve our understanding of environmental issues related to the agricultural sector, the EPA is working closely with the USDA and others to reduce emissions from agricultural operations and improve air quality while supporting a sustainable agricultural sector. Our approach to the agriculture sector includes scientific assessment, outreach and education, and implementation/compliance. The scientific assessment will ensure that EPA is guided by sound science. Because EPA does not have adequate emissions estimates for this sector, we need to develop an understanding of emissions profiles and establish monitoring and measurement protocols, technology transfer, and a research agenda. Through outreach and education, we will instill a long-term commitment to working with the agricultural community; build respect and trust; and identify, promote, and quantify new/existing control technologies. We also will encourage partnerships between the EPA, USDA, and their established partners and utilize existing USDA infrastructure (e.g., Extension Service, National Resources Conservation Services, land grant colleges and universities, and Farm Bill programs). Additionally, we will actively engage and reach out to the agriculture community. Our implementation/compliance approach will fully institute policies and practices to ensure that farming and land management communities continue to consider air quality as an integral part of their resource management. An appropriate mix of voluntary and regulatory programs will be implemented and we will utilize USDA infrastructure to implement air quality programs and compliance assistance (where practical).

In developing regional and international air quality programs and projects, and in working on regional agreements, the EPA works with the DOS, NOAA, NASA, DOE, USDA, USAID, and the Office of Management and Budget (OMB), as well as with regional organizations. The EPA's

international air quality management program complements the EPA's programs on children's health, trade and the environment, climate change, and trans-boundary air pollution. In addition, the EPA partners with other organizations worldwide, including the United Nations Environment Programme, the European Union, the OECD, the United Nations Economic Commission for Europe, the North American Commission for Environmental Cooperation, the World Bank, the Asian Development Bank, the Clean Air Initiative for Asian Cities, the Global Air Pollution Forum, and our air quality partners in several countries, including Canada, Mexico, Europe, China, and Japan.

In contributing to international efforts to control air pollution sources that could impact the United States, the EPA engages in multilateral environmental agreements including the new Minamata Convention on Mercury, and with other organizations worldwide, including the United Nations Environment Programme, the European Union, the OECD, the United Nations Economic Commission for Europe, the North American Commission for Environmental Cooperation, the World Bank, the Asian Development Bank, the Clean Air Initiative for Asian Cities, the Global Air Pollution Forum, and our air quality colleagues in several countries, including Canada, Mexico, Europe, China, and Japan.

The EPA, working closely with the Department of State, helped advance a resolution calling for greater international action to improve air quality through the United Nations Environment Program (UNEP). According to a recent World Health Organization (WHO) report, one in eight global deaths is due to poor air quality- more than malaria, tuberculosis, and AIDS combined - yet little has been done, to date, through coordinated international action. In addition, when addressing air pollution, climate co-benefits are often achieved. The EPA will continue to strengthen the links between environment and public health officials and provide technical assistance through UNEP to facilitate the development of air quality management strategies to other major emitters and/or to key regional or sub-regional groupings of countries.

Improving Indoor Air Quality

The EPA works closely, through a variety of mechanisms, with a broad range of federal, state, Tribal, and local government agencies, industry, non-profit organizations, and individuals, as well as other nations, to promote more effective approaches to identifying and solving indoor air quality (IAQ) problems. At the federal level, the EPA works closely with several departments or agencies on healthy IAQ in homes, schools, other buildings, and on international issues. Examples include:

Improving IAQ in Homes

- HHS to reduce the burden of asthma -- by coordinating research, building community capacity, raising public awareness, and promoting the adoption of reimbursement for asthma care services, with a special emphasis on controlling indoor environmental exposures -- and to track progress on this objective;
- HUD to improve IAQ in homes;
- Consumer Product Safety Commission (CPSC) to identify and mitigate the health hazards of consumer products designed for indoor use;
- DOE to address IAQ in home weatherization programs; and
- USDA to encourage USDA extension agents to conduct local projects designed to improve

indoor air quality.

The EPA plays a leadership role on the President's Task Force on Environmental Health Risks and Safety Risks to Children, particularly with respect to asthma and school environmental health issues. The EPA is a member of the National Asthma Education and Prevention Program Coordinating Committee and the Federal Liaison Group on Asthma—the overarching coordination groups that focus on national asthma control efforts.

Improving IAQ in Schools

- DoEd on a wide range of school related indoor environmental quality initiatives, including development of voluntary guidelines mandated under the Energy Independence and Security Act of 2007 for siting of school facilities and state school environmental health programs, as well as the establishment of a DoEd-led Green Ribbon Schools initiative; and
- HHS and the CDC to promote healthy, asthma-friendly schools, and track progress on this objective.

IAQ and the Built Environment

- As a co-chair of the Federal Interagency Committee on Indoor Air Quality (CIAQ), the EPA coordinates the exchange of information on IAQ-related research and activities. The co-chair agencies include the CPSC, DOE, NIOSH, and the Occupational Safety and Health Administration (OSHA). Another 20 federal departments and agencies participate as members.

International

- U.S. Government-wide Cookstoves Interagency Working Group, whose members include the DOS, the EPA, USAID, DOE, and HHS, to improve health, livelihood, and quality of life in developing countries by reducing exposure to indoor air pollution from household energy use through public-private partnership initiatives such as the Partnership for Clean Indoor Air and the Global Alliance for Clean Cookstoves.

Research on Air Quality

The EPA will continue its successful air quality research partnerships with academia and private sector research organizations through the EPA's ACE Research Centers and the Health Effects Institute. In order to approach changes in air pollution sustainably, the EPA continues to strengthen interactions with other agencies, including NOAA, DOE, the U.S. Department of Agriculture, the National Institute of Health (NIH), the Federal Highway Administration, and the National Association of Clean Air Agencies. For example, the EPA is working with National Oceanic and Atmospheric Administration (NOAA) and the National Aeronautics and Space Administration (NASA) to relate satellite-based air quality data to ambient monitoring. Furthermore, the EPA will collaborate with the Department of Energy (DOE) and the Department of the Interior (DOI) as part of the Federal Multiagency Research Strategy on Unconventional Oil and Gas Research. This research strategy is designed to evaluate the potential impacts of hydraulic fracturing on air quality to support sustainable approaches to unconventional oil and natural gas development and production.

Objective: Restore and Protect the Ozone Layer

The EPA works very closely with the DOS and other federal agencies in international negotiations among Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer and in developing the implementing regulations. While the environmental goal of the Montreal Protocol is to protect the ozone layer, the ozone depleting substances it controls also are significant greenhouse gases. The EPA works on several multinational environmental agreements to simultaneously protect the ozone layer and climate system, including working closely with the Department of State and other federal agencies, including OMB, Office of Science Technology and Policy, Council on Environmental Quality, USDA, the Food and Drug Administration (FDA), Department of Commerce, NOAA, and NASA.

The EPA works with other agencies, including the Office of the United States Trade Representative and the Department of Commerce, to analyze potential trade implications in stratospheric protection regulations that affect imports and exports. The EPA leads a task force with the Department of Justice (DOJ), Department of Homeland Security (DHS), Department of Treasury, and other agencies to curb the illegal importation of ozone-depleting substances (ODS). Illegal import of ODS has the potential to prevent the United States from meeting the goals of the Montreal Protocol to restore the ozone layer.

The EPA has continued discussions with DOD to assist in the effective transition from ODS and high-GWP substitutes to a suite of substitutes with lower global warming potential (GWPs).

The EPA works with USDA and the DOS to facilitate research, development, and adoption of alternatives to methyl bromide. The EPA collaborates with these agencies to prepare U.S. requests for critical use exemptions of methyl bromide. The EPA is providing input to USDA on rulemakings for methyl bromide-related programs. The EPA also consults with USDA on domestic methyl bromide needs.

The EPA coordinates with NASA and NOAA to monitor the state of the stratospheric ozone layer and to collect and analyze UV data, including science assessments that help the public understand what the world may have looked like without the Montreal Protocol and its amendments.² The EPA works with NASA on assessing essential uses and other exemptions for critical rocket needs, as well as effects of direct emissions of high-speed aircraft flying in the stratosphere.

The EPA works with DOE on GreenChill³ and Responsible Appliance Disposal (RAD)⁴ efforts. The GreenChill Advanced Refrigeration Partnership is an EPA cooperative alliance with the supermarket industry and other stakeholders to promote advanced technologies, strategies, and practices that reduce refrigerant charges and emissions of ozone-depleting substances and greenhouse gases. The EPA's RAD Program is a partnership program that protects the ozone layer

² *The Ozone Layer: Ozone Depletion, Recovery in a Changing Climate, and the "World Avoided;"* Findings and Summary of the U.S. Climate Change Science Program Synthesis and Assessment Product 2.4; November 2008.

³ For more information, see: www.epa.gov/greenchill.

⁴ For more information, see: www.epa.gov/ozone/partnerships/rad.

and reduces emissions of greenhouse gases through the recovery of ozone-depleting chemicals from old refrigerators, freezers, air conditioners, and dehumidifiers.

The EPA coordinates with the Small Business Administration (SBA) to ensure that proposed rules are developed in accordance with the Small Business Regulatory Flexibility Act.

Objective: Minimize Exposure to Radiation

The EPA works primarily with the Nuclear Regulatory Commission (NRC), DOE, and the DHS on multiple radiation protection issues. The EPA has ongoing planning and guidance discussions with DHS on Protective Action Guidance and general emergency response activities, including exercises responding to nuclear related incidents. As the regulator of DOE's Waste Isolation Pilot Plant (WIPP) facility, the EPA coordinates oversight activities with DOE to ensure the facility is operating in compliance with EPA regulations. The EPA is a member of the Interagency Radiation Source Protection and Security Task Force, established in the Energy Policy Act, to improve the security of domestic radioactive sources. The EPA also is a working member of the interagency Nuclear Government Coordinating Council (NGCC), which coordinates across government and the private sector on issues related to security, communications, and emergency management within the nuclear sector.

For emergency preparedness purposes, the EPA coordinates closely with other federal agencies through the Federal Radiological Preparedness Coordinating Committee and other coordinating bodies. The EPA participates in planning and implementing table-top and field exercises including radiological anti-terrorism activities, with the NRC, DOE, DOD, HHS, and DHS.

The EPA works closely with other federal agencies when developing radiation policy guidance under its Federal Guidance authority. This authority was transferred to the EPA from the Federal Radiation Council in 1970 and tasks the Administrator with making radiation protection recommendations to the President. When signed by the President, Federal Guidance recommendations are addressed to all federal agencies and are published in the *Federal Register*. Risk managers at all levels of government use this information to assess health risks from radiation exposure and to determine appropriate levels for clean-up of radioactively contaminated sites. The EPA's radiation science is widely relied upon and is the objective foundation for the EPA, other federal agencies, and states to develop radiation risk management policy, standards, and guidance.

The EPA is a charter member and co-chairs the Interagency Steering Committee on Radiation Standards (ISCORS). ISCORS was created at the direction of Congress. Through quarterly meetings and the activities of its six subcommittees, member agencies are kept informed of cross-cutting issues related to radiation protection, radioactive waste management, and emergency preparedness and response. ISCORS also helps coordinate U.S. responses to radiation-related issues internationally.

Promoting international assistance, the EPA serves as an expert member of the International Atomic Energy Agency's (IAEA) Environmental Modeling for Radiation Safety, Naturally-Occurring Radioactive Materials Working Group. Additionally, the EPA remains an active contributor to the OECD's Nuclear Energy Agency (NEA). The EPA serves on both the NEA Radioactive Waste Management Committee (RWMC) and the Committee on Radiation Protection

and Public Health (CRPPH). Through the RWMC, the EPA is able to exchange information with other NEA member countries on the management and disposal of high-level and transuranic waste. Through participation on the CRPPH and its working groups, the EPA has been successful in bringing a U.S. perspective to international radiation protection policy.

Goal 2- Protecting America's Waters

Objective: Protect Human Health

Collaboration with Public and Private Partners on Critical Water Infrastructure Protection

The EPA coordinates with other federal agencies, primarily Department of Homeland Security (DHS), Centers for Disease Control (CDC), Food and Drug Administration (FDA), and Department of Defense (DOD), on biological, chemical, and radiological contaminants of high concern, and how to detect and respond to their presence in drinking water and wastewater systems. A close linkage with the Federal Bureau of Investigation and the Intelligence Analysis Directorate in DHS, particularly with respect to ensuring the timely dissemination of threat information through existing communication networks, will be continued. The agency is strengthening its working relationships with the Water Research Foundation, the Water Environment Research Foundation, and other research institutions to increase our knowledge on technologies to detect contaminants, monitoring protocols and techniques, and treatment effectiveness.

The EPA will continue to work with the U.S. Army Corps of Engineers (ACE) and the Federal Emergency Management Agency (FEMA) to refine coordination processes among federal partners engaged in providing emergency response support to the water sector. These efforts will include refining existing standard operating procedures, participating in cross-agency training opportunities, and planning multi-stakeholder water sector emergency response exercises. EPA will be determining how ACE, FEMA, and the EPA are to clarify their roles and responsibilities under the National Disaster Recovery Framework. In addition, EPA will continue to work with FEMA and the ACE, as well as other agencies, on the Federal Interagency Floodplain Management Task Force with regard to water resources and floodplain management.

The President issued Executive Order 13636 on *Improving Critical Infrastructure Cybersecurity* on February 12, 2013, directing the EPA to coordinate with DHS and the Department of Commerce in developing implementation guidance on cybersecurity practices for water systems. The EPA intends to harness the extensive cybersecurity capabilities of DHS in carrying out its responsibilities under this Presidential mandate.

Climate Change

The EPA has developed the Climate Ready Water Utilities initiative to provide practical tools and training that enable water systems to integrate climate change considerations into long-range planning. The EPA relies heavily upon other federal agencies for the data that populate these tools including climate and extreme weather data from the National Oceanic and Atmospheric Administration, climate projections from the U.S. Global Climate Change Research Program, and

flood data from FEMA. The EPA's Climate Ready Estuaries initiative will continue to participate in interagency efforts such as the National Ocean Policy implementation, U.S. Global Change Research Program and CEQ, to plan for the impacts of climate change. The EPA will continue to leverage the research and expertise from NOAA, Interior, Navy, FEMA, and other federal agencies in developing climate and extreme event products for water systems and supporting coastal communities for climate change adaptation.

Geologic Sequestration

The EPA coordinates with federal agencies to ensure safe and effective implementation of regulations to protect underground sources of drinking water during geologic sequestration activities, as well as plan and obtain research-related data and coordinate regulatory activities. Specifically, the EPA coordinates with the Department of Energy, the Department of the Interior's Geological Survey, and the Internal Revenue Service to ensure that Safe Drinking Water Act regulations for geologic sequestration sites are appropriately coordinated with efforts to deploy projects, map geologic sequestration capacity, provide tax incentives for CO₂ sequestration, and manage the movement of CO₂ from capture facilities to geologic sequestration sites.

Collaboration with U.S. Geological Survey

The EPA and U.S. Geological Survey have established an Interagency Agreement to coordinate activities and information exchange in the areas of unregulated contaminants occurrence, the environmental relationships affecting contaminant occurrence, protection area delineation methodology, and analytical methods. This collaborative effort has improved the quality of information to support risk management decision-making at all levels of government, generated valuable new data, and eliminated potential redundancies.

Sustainable Rural Drinking and Wastewater Systems

In 2011, the EPA and U.S. Department of Agriculture-RD-RUS signed a new memorandum of agreement (MOA) - *Promoting Sustainable Rural Water and Wastewater Systems*. The EPA and U.S. Department of Agriculture have agreed to work together to increase the sustainability of rural drinking water and wastewater systems to ensure the protection of public health, water quality, and sustainable communities. The MOA addresses the following four areas: 1) Sustainability of Rural Communities - promote asset management planning, water and energy efficiency practices, and other sustainable utility management practices; 2) System Partnerships - educate and encourage communities and utilities that lack technical, managerial, and financial capacity to seek partnership opportunities that can lead to increased compliance and reduced costs; 3) Water Sector Workforce - work together to promote careers in the water sector to attract a new generation of water professionals to rural systems; and 4) Compliance of Small Rural Public Water and Wastewater Systems with Drinking Water and Clean Water Regulations - partner and provide timely regulation training to water and wastewater systems in rural areas. In addition, the two agencies will work to facilitate coordinated funding for infrastructure projects that aid in the compliance of national drinking water and clean water regulations. In FY 2017, the EPA will continue to collaborate with the USDA to provide assistance to small drinking water systems struggling to comply with drinking water regulations and/or lack an adequate governance structure to keep the system operating sustainably.

National Water Sector Workforce Development: Department of Veterans Affairs

In 2012, the EPA and the Department of Veterans Affairs (VA) Vocational Rehabilitation and Employment (VR&E) Service signed a new memorandum of understanding to jointly promote activities that will help advance and improve employment opportunities for Veterans with disabilities while supporting the development of a trained and competent workforce for the Water Sector. Key objectives of this collaborative effort are to: 1) educate those involved with transitioning veterans to civilian careers about the water and wastewater industries; 2) promote Water Sector career opportunities to veterans; 3) educate utilities about Veterans Affairs programs and connect them with veterans; and 4) promote state program collaboration (particularly operator certification programs) with local Veterans Affairs counselors.

Tribal Access Coordination

The EPA, the Department of Agriculture, the Department of Housing and Urban Development, the Department of Health and Human Services, the Indian Health Service, and the Department of the Interior are joining forces to renew their commitment to work together to maintain and improve coordination in delivering water and wastewater infrastructure services and financial assistance to American Indian and Alaska Native communities. The agencies will continue to work together to increase the number of American Indian and Alaska Native homes provided access to safe drinking water. A memorandum of understanding signed by the Agencies will remain in effect for the next eight years. In 2003, the EPA and its federal partners in the Department of Agriculture, Department of Housing and Urban Development, Department of Health and Human Services, and Department of the Interior set a very ambitious goal to reduce the number of homes without access to safe drinking water. This goal remains ambitious due to the logistical challenges, capital and operation, and maintenance costs involved in providing access. The EPA is working with its federal partners to coordinate spending and address some of the challenges to access on Tribal lands and expects to make measureable progress on the access issue.

Source Water Protection

The EPA is coordinating with U.S. Department of Agriculture (Natural Resource Conservation Service and Forest Service) and U.S. Geological Survey to support state and local implementation of source water protection actions. EPA partners with other federal agencies in watershed-based source water collaboratives like the Salmon Falls Watershed Collaborative, which includes EPA Region 3 and Maine Center for Disease Control and Prevention (CDC). In addition, the EPA works with U.S. Geological Survey on coordinating mapping of source water areas on a national scale with the National Hydrography Database as well as data on potential sources of contamination like nutrient loading and arsenic levels in soil. The EPA also is working with the Department of Transportation (DOT) to incorporate their gas transmission and hazardous liquid pipeline data into the EPA's source water protection GIS mapping application, and to share with DOT, the EPA's source water protection area data for inclusion in their Ecological Unusually Sensitive Area GIS layer for water quality protection purposes. In addition, the EPA coordinates with the Homeland Security Infrastructure Program (HSIP) of the National Geospatial-Intelligence Agency (NGA) to integrate their data on national and defense-critical infrastructure into source water protection analyses such as identifying potential contributors to harmful algal blooms and chemical spill response. The EPA also shares source water data with the Water Resources Registry, a map-based

decision support tool for conservation and preservation opportunities developed in partnership with the U.S. Army Corps of Engineers and U.S. Department of Interior (Fish and Wildlife Service). Finally, EPA Source Water Protection and EPA's Research and Development Program have worked together with NASA, NOAA, and USGS to incorporate data on Public Water Systems into a mobile app to identify cyanobacteria blooms in U.S. freshwater lakes and reservoirs using ocean color satellite data.

Data Availability, Outreach, and Technical Assistance

The EPA coordinates with U.S. Geological Survey, U.S. Department of Agriculture (Forest Service, Natural Resources Conservation Service), Cooperative State Research, Education, and Extension Service, Rural Utilities Service, Centers for Disease Control, Department of Transportation, Department of Defense, Department of Energy, Department of the Interior (National Park Service and Bureau of Indian Affairs, Land Management, and Reclamation), Department of Health and Human Services (Indian Health Service), and the Tennessee Valley Authority to make data more available to states and the public. In addition, the EPA has collaborated with the other federal agencies, states, and industry associations to establish a National Ground Water Monitoring Network with States to provide a fuller set of ground water data nationally through a single portal. Data will help to address national and regional issues related to water use, climate change and adaptation, and food and energy production. The USGS created the portal and six states have made data available in the pilot demonstration.

Collaboration with the Department of Energy (DOE), Department of Interior (DOI), and US Geologic Survey (USGS) on Hydraulic Fracturing and Induced Seismicity

The EPA is working with the DOE and the DOI to support state programs as they oversee hydraulic fracturing activities including Class II disposal wells. The DOE, DOI, and EPA continue to engage in a multi-agency research effort to address the highest-priority research questions associated with safely and prudently developing unconventional shale gas and tight oil resources. This effort focuses on timely, policy-relevant science directed to research topics where collaboration among the three agencies can be most effectively and efficiently conducted. EPA participates in development of their induced seismicity products. The EPA also is collaborating with DOE and USGS in a federal interagency research effort to address the highest priority challenges associated with development of unconventional oil and gas resources. One of the seven topic areas of research is induced seismicity. The goal of this topic area is to better understand the potential risks of induced seismicity and its causes and effects throughout the unconventional oil and gas life cycle. As such, the EPA is working with DOE and USGS to identify research that will be of benefit to EPA and state Underground Injection Control Program activities. Some of the research that has begun looks at the potential for induced seismicity in geologic sequestration activities.

Collaboration with the Food and Drug Administration

The EPA and Food and Drug Administration are updating a Memorandum of Understanding (MOU) first established in 1978 to coordinate the authorities and programs of the two agencies with respect to oversight of drinking water on interstate conveyance carriers (e.g., aircraft, trains). The updates to the MOU are in response to the EPA's Aircraft Drinking Water Rule (ADWR)

promulgated on October 19, 2009. Coordination will include sharing information on sample results indicating microbial contamination, inspections and enforcement actions; working together when water quality events occur that could impact the quality of water boarded onto aircraft; and other activities to ensure that a safe and reliable supply of drinking water is provided to passengers and crew. In addition, EPA scientists are collaborating with FDA scientists to develop Physiologically-Based Pharmacokinetic/Pharmacodynamic (PBPK/PD) models to inform the derivation of a maximum contaminant level goal (MCLG) for perchlorate in response to recommendations by EPA's Science Advisory Board (SAB). FDA scientists developed a model to relate perchlorate exposure to biological effects (e.g., changes in thyroid hormones) in the late-stage fetus, one of the most sensitive lifestages. In response to SAB recommendations, FDA and EPA scientists are developing models to relate perchlorate exposure to biological effects in infants, another key lifestage. Scientists will use information from published models and literature to develop thyroid hormone models for the bottle-fed infant, breast-fed infant, and lactating mother.

Collaboration with the Centers for Disease Control and Prevention (CDC)

The EPA has been collaborating with states to develop a technical document that characterizes the current knowledge of treatment technologies to control *Legionella* in building drinking water systems. CDC has provided comments on the document for use by EPA during final document preparation.

The EPA is reviewing information related to fluoride in drinking water as part of the Third Six-Year Review of existing national primary drinking water regulations. EPA continues to coordinate and support CDC by reviewing their online training for water fluoridation.

Objective: Protect and Restore Watersheds and Aquatic Ecosystems

Watersheds

Protecting and restoring watersheds will depend largely on the direct involvement of many federal agencies and state, Tribal, and local governments who manage the multitude of programs necessary to address water quality on a watershed basis. Federal agency involvement will include U.S. Department of Agriculture (Natural Resources Conservation Service, Forest Service Agency, and Agriculture Research Service), Department of the Interior (Bureau of Land Management, Office of Surface Mining, U.S. Geological Survey, U.S. Fish and Wildlife Service, and the Bureau of Indian Affairs), National Oceanic and Atmospheric Administration, Department of Transportation, and Department of Defense (Navy and US Army Corps of Engineers). At the state level, agencies involved in watershed management typically include departments of natural resources or the environment, public health agencies, and forestry and recreation agencies. Locally, numerous agencies are involved, including regional planning entities such as councils of governments, as well as local departments of environment, health, and recreation who frequently have strong interests in watershed projects.

National Pollutant Discharge Elimination System (NPDES) Program

Since inception of the NPDES program under Section 402 of the Clean Water Act, the EPA and the authorized states have developed expanded relationships with various federal agencies to implement pollution controls for point sources. The EPA works closely with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service on consultation for protection of endangered species through a Memorandum of Agreement. The EPA works with the Advisory Council on Historic Preservation on National Historic Preservation Act implementation. The EPA and the states rely on monitoring data from U.S. Geological Survey to help confirm pollution control decisions. The agency also works closely with the Small Business Administration and the Office of Management and Budget to ensure that regulatory programs are fair and reasonable. The agency coordinates with NOAA on efforts to ensure that NPDES programs support coastal and national estuary efforts and with the Department of the Interior on mining issues. The agency also coordinates with the Federal Highway Administration to reduce the impacts of stormwater from roads.

Joint Strategy for Animal Feeding Operations

The agency is working closely with the U.S. Department of Agriculture to implement the Unified National Strategy for Animal Feeding Operations (AFO Strategy) finalized on March 9, 1999. The Strategy sets forth a framework of actions that U.S. Department of Agriculture and the EPA will take to minimize water quality and public health impacts from improperly managed animal wastes in a manner designed to preserve and enhance the long-term sustainability of livestock production. The EPA's recent revisions to the Concentrated Animal Feeding Operations Regulations (effluent guidelines and NPDES permit regulations) will be a key element of the EPA and U.S. Department of Agriculture's plan to address water pollution from CAFOs. The EPA and U.S. Department of Agriculture senior management meet routinely to ensure effective coordination across the two agencies.

Community Water Priorities/Urban Waters

In response to stakeholder feedback, the EPA has been working with senior executives from thirteen federal agencies, since 2010, to implement the Urban Waters Federal Partnership, with support from the White House Council on Environmental Quality and the Domestic Policy Council. Agencies include:

- Department of the Interior
- Department of Agriculture
- Department of Commerce – National Oceanic and Atmospheric Administration (NOAA)
- Department of Commerce – Economic Development Administration
- Army Corps of Engineers
- Department of Transportation
- Department of Housing and Urban Development
- Department of Health and Human Services – Centers for Disease Control and Prevention
- Department of Health and Human Services – National Institute of Environmental Health Sciences

- Corporation for National and Community Service
- Department of Education
- Department of Energy
- Environmental Protection Agency
- Federal Emergency Management Agency

This partnership seeks to help communities – especially underserved communities – transform overlooked urban waters into treasured centerpieces and drivers of urban revival. The partnerships will advance urban waters goals of: empowering and supporting communities in revitalizing their urban waters and the surrounding land; helping communities establish and maintain safe and equitable public access to their urban waterways; and linking urban water restoration to other community priorities such as employment, education, economic revitalization, housing, transportation, health, safety, and quality of life. To meet these goals, the partnership is working in 18 locations nationwide and is leveraging member agencies’ authorities, resources, expertise, and local support. At the 18 locations, urban waters partnerships have been or are being formed. These local partnerships implement policy actions and on-the-ground projects that integrate federal support with local stakeholders’ actions in those communities. They also work to remove barriers to achieving local workplans consistent with national action principles. The Partnership will continue to support the Five-Star Urban Waters Restoration Program, a public-private partnership that leverages private funding to support local water quality projects.

Clean Water State Revolving Fund

The EPA’s State Revolving Fund program, Department of Housing and Urban Development’s Community Development Block Grant program, and the U.S. Department of Agriculture’s Rural Development foster collaboration on jointly funded infrastructure projects through: (1) coordination of the funding cycles of the three federal agencies; (2) consolidation of plans of action (operating plans, intended use plans, strategic plans, etc.); and (3) preparation of one environmental review document, when possible, to satisfy the requirements of all participating federal agencies. A coordination group, at the federal level, has been formed to further these efforts and maintain lines of communication. In many states, coordination committees have been established with representatives from the three programs.

In implementation of the Indian set-aside grant program under Title VI of the Clean Water Act, the EPA works closely with the Indian Health Service to administer grant funds to the various Indian tribes, including determination of the priority ranking system for the various wastewater needs in Indian Country. The EPA and U.S. Department of Agriculture Rural Development partner to provide coordinated financial and technical assistance to tribes.

Federal Agency Partnerships on Impaired Waters Restoration Planning

The federal government owns about 30 percent of the land in the United States and administers over 90 percent of these public lands through four agencies: Forest Service, Fish and Wildlife Service, National Park Service, and Bureau of Land Management. In managing these extensive public lands, federal agencies have a substantial influence on the protection and restoration of many waters of the United States. Land management agencies’ focus on water issues has increased

significantly, with the Forest Service, Fish and Wildlife Service, and Bureau of Land Management all initiating new water quality and watershed protection efforts. The EPA has been conducting joint national assessments with these agencies to enhance watershed protection and quantify restoration needs on federal lands. The EPA's joint national assessments of Fish and Wildlife Service and Forest Service properties already have documented the extent and type of impaired waters within and near these agencies' lands, developed GIS databases, reported national summary statistics, and developed interactive reference products (on any scale, local to national), accessible to staff throughout the agencies. These assessments already have influenced the agencies in positive ways. The Forest Service and the Fish and Wildlife Service have performance measures that involve impaired waters. The Forest Service used their national assessment data to institute improvements in a national monitoring and Best Management Practices training program as well as develop a watershed condition framework for proactively implementing restoration on priority National Forest and Grassland watersheds. Also, under a Memorandum of Agreement between the EPA and Forest Service, numerous aquatic restoration projects are being carried out. The Fish and Wildlife Service is using their national assessment data to inform agency planning on water conservation, quality, and quantity monitoring and management in the National Wildlife Refuge System, and also is using the assessment in National Fish Hatcheries System planning and their Contaminants Program. The EPA assessments and datasets are making significant contributions to the government-wide National Fish Habitat Action Partnership national assessment of fish habitat condition and the restoration and protection efforts of 17 regional Fish Habitat Partnerships. Also, EPA has provided geospatial analysis from the agencies' atmospheric mercury deposition modeling to the National Park Service for each of the properties they manage. This analysis shows not only the amount of mercury falling onto a particular watershed but also allocates the deposition among major contributing U.S. and global sources.

Monitoring and Assessment of Nation's Waters

The EPA works with federal, state, and Tribal partners to strengthen water monitoring programs to support a range of management needs and to develop tools to improve how we manage and share water data and report environmental results. The EPA's Monitoring and Assessment Partnership is a forum for the EPA, states, tribes, and interstate organizations to collaborate on key program directions for assessing the condition of the nation's waters in a nationally consistent and representative manner. The EPA is co-chair, along with U.S. Geological Survey, of the National Water Quality Monitoring Council, a national forum for scientific discussion of strategies and technologies to improve water quality monitoring and data sharing. The council membership includes other federal agencies, state and Tribal agencies, non-governmental organizations, academic institutions, and the private sector.

Under a Memorandum of Understanding, the EPA and the U.S. Geological Survey (USGS) developed and are now operating the national Water Data Portal, a web portal serving data from the USGS and the EPA ambient water quality data warehouses in a common format through the internet. The EPA has an Interagency Agreement with the USGS for the development of NHDPlus version 2, which is complete for the lower 48 states. The EPA also collaborates with USGS and National Oceanic and Atmospheric Administration, the National Park Service, U.S. Department of Agriculture, Fish and Wildlife Service, and the Forest Service on implementation, analysis and/or on analysis and interpretation of the results of the national Aquatic Resource Surveys.

Nonpoint Source Pollution Control

The EPA will continue to work closely with its federal partners to achieve our goals for reducing pollutant discharges from nonpoint sources, including reduction targets for sediments, nitrogen, and phosphorous. Most significantly, the EPA will continue to work with the U.S. Department of Agriculture, which has a key role in reducing pollutant loadings through its continued implementation of the Environmental Quality Incentives Program, Regional Conservation Partnerships Program, and other conservation programs. The EPA will continue its active collaboration with USDA in joint investments in priority watersheds to reduce nutrient pollution through closer coordination of the Section 319 program and the Environmental Quality Incentives Program. Specifically, the EPA will continue to collaborate with states and USDA to implement the National Water Quality Initiative, focusing EQIP conservation funds to improve water quality and assess progress in 183 small watersheds nationwide. The EPA also will continue to work closely with the Forest Service and other agencies to work toward shared water quality goals on public lands. The EPA will work with these agencies, U.S. Geological Survey, and the states to document improvements in land management and water quality.

Marine Pollution Prevention

The EPA works closely with a number of federal agencies including the U.S. Coast Guard, U.S. Navy, U.S. Army Corps of Engineers, Department of State, National Oceanic and Atmospheric Administration, and others to prevent pollution from both land-based and ocean-based sources from entering the marine environment.

The EPA works with the U.S. Navy on the Uniform National Discharge Standards Rulemaking. Section 312(n) of the Clean Water Act requires the EPA and the Department of Defense to identify, evaluate, and establish discharge standards for certain discharges from vessels of armed forces.

The EPA works with the U.S. Coast Guard on the Clean Boating Act Rulemaking. Section 312(o) of the Clean Water Act requires the EPA to identify, evaluate, and establish management practices for discharges incidental to the normal operation of a recreational vessel. The EPA also works closely with the U.S. Coast Guard on addressing ballast water discharges.

The EPA will continue to work closely with U.S. Army Corps of Engineers on standards for permit review, as well as site selection/designation and monitoring related to dredged material management under the Clean Water Act and Marine Protection, Research, and Sanctuaries Act (MPRSA).

The EPA has entered into an Interagency Agreement (IA) in September 2012 with NOAA to support the EPA's ocean dumping monitoring program. The IA will help support the EPA's implementation of the MPRSA by enabling EPA scientists to conduct ocean dump site monitoring using NOAA vessels. In addition, the EPA is using contract vessels and, through an IA with ACE, ACE vessels to conduct ocean dump site monitoring. The EPA also is exploring the use of University-National Oceanographic Laboratory System vessels for future surveys.

In addition, the EPA works closely with a number of other federal agencies to prepare Reports to Congress as well as review reports from other agencies. For example, the EPA works with a number of federal agencies on the Interagency Marine Debris Coordinating Committee (IMDCC),

which prepares periodic reports to Congress on the progress of marine debris prevention efforts per the Marine Debris Research, Prevention, and Reduction Act of 2006.

The EPA's work with the IMDCC also includes coordination on technical and non-regulatory policy issues relating to trash and debris prevention. For example, the EPA coordinates with NOAA on research agendas addressing ecological and possible human health effects of trash in aquatic ecosystems and with the Department of State on international initiatives to reduce marine trash.

The EPA also participates with other federal agencies (including: U.S. Coast Guard, U.S. Army Corps of Engineers, Department of State, U.S. Department of the Interior, National Oceanic and Atmospheric Administration, Department of Energy, and U.S. Navy) on a number of international forums on marine protection, including ocean dumping and pollution from vessels. The U.S. is a member of the U.S. Delegation to the Marine Environmental Protection Committee and develops international standards that address vessel-related transport of aquatic invasive species, harmful antifoulants and operational discharges from vessels. The EPA is Head of the U.S. Delegation for the London Convention and London Protocol (LC / LP) Scientific Groups and Alternate Head of the U.S. Delegation for the LC / LP Consultative Meeting of the Parties; the London Convention and Protocol are the international treaties for the dumping of waste and other matter at sea.

The EPA also works with Department of State, Department of the Interior, Department of State, and other federal agencies to support development of international guidance under the London Convention and London Protocol related to sub-seabed sequestration of carbon dioxide.

National Estuary Program

The National Estuary Program is comprised of 28 place-based watershed management organizations that work with partners to protect and restore the water quality and ecological integrity of estuaries of national significance. The NEPs are located along the Atlantic and Pacific coasts and the Caribbean (Puerto Rico). Each NEP implements a Comprehensive Conservation Management Plan (CCMP) that identifies priority actions to address problems unique to the estuary, and adjacent watersheds, and the role NEP partners will play in implementing these actions. The long-term commitment, collaboration, and involvement of federal, state, regional, private and non-government partners contributes greatly to effective CCMP implementation. Federal partners include the EPA's Water Programs; the National Oceanic and Atmospheric Administration's National Estuarine Research Reserves, the Sea Grant Program, and Habitat Protection and Restoration Programs; the U.S. Fish and Wildlife Service's Coastal Program; and the U.S. Department of Agriculture's Natural Resource Conservation Service, and U.S. Forest Service. Other NEP partners include state natural resource and environmental protection agencies; municipal government planning agencies; regional planning agencies; universities; industry; and non-governmental organizations.

The EPA and National Oceanic and Atmospheric Administration are signatories on a Memorandum of Agreement to strengthen cooperation, communication, and coordination in a focused manner, including the sharing of resources, tools and information, to assist regional government entities, states, tribes, territories, and local governments in becoming sustainable and

resilient coastal and waterfront communities by protecting healthy coastal ecosystems, restoring degraded coastal ecosystems, and adapting to climate change. Recent collaborative efforts include working with the National Estuary Programs and the coastal management community to: assess climate change vulnerabilities, develop and implement adaptation strategies, and engage and educate stakeholders. Technical guidance and direct technical assistance on climate change adaptation also is provided.

National Ocean Policy

The EPA will support implementation of Executive Order 13547 on Stewardship of the Ocean, Our Coasts, and the Great Lakes that establishes the Nation's first comprehensive national policy for stewardship of the ocean, U.S. coasts and the Great Lakes. The Executive Order strengthens ocean governance and coordination, establishes guiding principles for ocean management, and adopts a flexible framework for effective coastal and marine spatial planning. The EPA will co-lead interagency work on two of the nine Strategic Priorities: "Regional Ecosystem Protection and Restoration" with U.S. Army Corps of Engineers and "Water Quality and Sustainable Practices on Land" with U.S. Department of Agriculture.

Wetlands

The EPA, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, National Oceanic and Atmospheric Administration, U.S. Geological Survey, U.S. Department of Agriculture, and Federal Highway Administration currently coordinate on a range of wetlands activities. These activities include: studying and reporting on wetlands trends in the United States, diagnosing causes of coastal wetland loss, statistically surveying the condition of the nation's wetlands, and developing methods for better protecting wetland function. Coastal wetlands remain a focus area of current interagency wetlands collaboration. The agencies meet monthly and are conducting a series of coastal wetlands reviews to identify causes and prospective tools and approaches to address the 84,100 acre loss over five years in marine and estuarine wetlands that U.S. Fish and Wildlife Service documented in the 2011 "Status and Trends of Wetlands in the Conterminous United States: 2004 to 2009" report. Additionally, the EPA and the U.S. Army Corps of Engineers work very closely together in implementing the wetlands regulatory program under Clean Water Act Section 404. Under the regulatory program, the agencies coordinate closely on overall implementation of the permitting decisions made annually under Section 404 of the Clean Water Act, through the headquarters offices as well as the ten EPA Regional Offices and 38 U.S. Army Corps of Engineers District Offices. The agencies also coordinate closely on policy development, litigation, and implementing the Executive Order on Infrastructure Permitting. The EPA and U.S. Army Corps of Engineers are committed to achieving the goal of no net loss of wetlands under the Clean Water Act Section 404 program. With the promulgation of the Clean Water Rule in 2015, the EPA and the U.S. Army Corps of Engineers are closely coordinating to ensure the effective and efficient implementation of the definition of "Waters of the United States."

Geographic Programs

The Administration has launched numerous cross-agency efforts to promote collaboration and coordination among agencies, which include a suite of large aquatic ecosystem restoration efforts.

Three prominent examples for the EPA of cross-agency restoration efforts are the Great Lakes, the Chesapeake Bay, and the Gulf of Mexico. Working with its partners and stakeholders, the EPA has established special programs to protect and restore each of these unique natural resources.

The EPA's ecosystem protection programs encompass a wide range of approaches that address specific at-risk regional areas and larger categories of threatened systems, such as urban waters, estuaries, and wetlands. Locally generated pollution, combined with pollution carried by rivers and streams and through air deposition, can accumulate in these ecosystems and degrade them over time. The EPA and its federal partners along with states, tribes, municipalities, and private parties, will continue efforts to restore the integrity of imperiled waters of the United States.

Great Lakes

The Interagency Task Force,⁵ created by Executive Order 13340, is charged with increasing and improving collaboration and integration among federal agencies involved in Great Lakes environmental activities. The Task Force provides overall guidance regarding the Initiative and coordinates restoration of the Great Lakes, focusing on outcomes such as, *e.g.*, cleaner water and sustainable fisheries. The EPA leads the Interagency Task Force.

The EPA led development of a FY 2014 – FY 2019 Great Lakes Restoration Initiative Action Plan (Action Plan) which targets the most significant environmental problems of the Great Lakes ecosystem. Members of the Interagency Task Force enter into interagency agreements to fund activities intended to achieve the goals, objectives, and targets in the Action Plan. This effort builds upon previous coordination and collaboration by the Great Lakes National Program Office pursuant to the mandate in Section 118 of the Clean Water Act to “coordinate action of the agency with the actions of other federal agencies and state and local authorities...” The Great Lakes National Program Office supports the Great Lakes Restoration Initiative, the Great Lakes Water Quality Agreement, and other efforts to improve the Great Lakes and, under the direction of the EPA's Great Lakes National Program Manager, is leading the implementation of Great Lakes restoration activities by the federal agencies and their partners. Coordinated activities to implement the Initiative include:

- jointly establishing funding priorities for ecosystem restoration;
- protecting the Great Lakes from invasive species, including Asian carp;
- coordinating habitat protection and restoration with states, tribes, USFWS, NOAA, USFS, and NRCS;
- coordinating development and implementation of Lakewide Action and Management Plans for each of the Great Lakes and for Remedial Action Plans for the 27 remaining U.S./binational Areas of Concern;
- coordinating programs and funding efforts to accelerate progress in delisting Areas of Concern and to reduce phosphorus runoff and effects in a targeted group of watersheds; and

⁵ The Interagency Task Force includes eleven agency and cabinet organizations: EPA; Department of State, DOI, USDA, Department of Commerce, Department of Housing and Urban Development, Department of Transportation, DHS, Army, Council on Environmental Quality, and Department of Health and Human Services.

- coordinating state, federal, and provincial partners, both to implement monitoring programs and to utilize the results from that monitoring activity to manage environmental programs.

Chesapeake Bay

The Chesapeake Bay Program (CBP) is a voluntary partnership, initiated in 1983, and now including the Chesapeake Bay watershed states (Delaware, Maryland, New York, Virginia, Pennsylvania and West Virginia), the District of Columbia, the Chesapeake Bay Commission, and the federal government. In June 2014, Chesapeake Bay Program partners signed the Chesapeake Bay Watershed Agreement, which provides for the first time the Bay's headwater states (Delaware, New York, and West Virginia) with full partnership in the Bay program. The agreement establishes 10 goals and 31 outcomes for sustainable fisheries, water quality, vital habitats, climate change, toxic contaminants, land conservation, stewardship, environmental literacy, public access, and other areas consistent with the strategy prepared in accordance with Executive Order (EO) 13508 on Chesapeake Bay Protection and Restoration.⁶ The EPA and its partners developed management strategies in FY 2015 to achieve the agreement's goals and outcomes and are currently developing 2-year workplans that will be completed in spring 2016.

The EPA represents the federal government on the partnership's Chesapeake Executive Council (EC), which oversees the policy direction of the Chesapeake Bay Program. In addition to the EPA Administrator, the EC consists of the governors of the Bay watershed states, the mayor of the District of Columbia, the chair of the Chesapeake Bay Commission. EPA and representatives from other Federal agencies and departments participate at all levels of the partnership structure, including committees, goal implementation teams, and workgroups, including a newly-formed (June 2015) Federal Facilities Workgroup. Section 117 of the Clean Water Act directs the EPA to maintain an office and to work with the EC to coordinate activities of the partnership through implementation of the Chesapeake Bay Agreements.

President Obama's May 2009 EO 13508 on Chesapeake Bay Protection and Restoration brought the federal agencies interested in the Bay and its watershed to a new level of interagency coordination and cooperation. The EO established the Federal Leadership Committee (FLC) for the Chesapeake Bay, which is chaired by the EPA and includes the U.S. Department of Agriculture, Department of Commerce, Department of Defense, Department of Homeland Security, Department of the Interior, and Department of Transportation. FLC members are Secretary and Administrator level executives. FLC members are represented in more regular meetings of the Federal Leadership Committee Designees, which includes Assistant Secretary and Assistant Administrator level executives. Development of deliverables under the EO is conducted by the CBP Federal Office Directors' group. Working together, the FLC agencies released a coordinated implementation strategy in May 2010.

The EO Strategy called for increased coordination between the FLC and the Chesapeake Bay Program partnership, seeking to produce the most efficient reporting mechanisms. In fiscal year 2017, the FLC will continue integrating the EO Action Plan with the management strategies and

⁶ The 2014 Chesapeake Bay Watershed Agreement is available at <http://www.chesapeakebay.net/chesapeakebaywatershedagreement/page>.

workplans developed under the new Agreement. The FLC also will continue integrating the progress reporting of the CBP partnership with the Progress Report called for in the EO into the management strategies, with the intention of eliminating duplicative reporting. FLC member agencies also will need to work together and with the Bay watershed jurisdictions to begin implementing the Chesapeake Bay Accountability and Recovery Act of 2014, which requires new financial reporting and evaluation of the program.

Moreover, office directors from the federal agencies represented by the FLC and those that are part of the Chesapeake Bay Program meet on a regular basis to coordinate federal activities on behalf of the FLC with those of the broader Chesapeake Bay Program partnership. This group includes representatives of:

- Environmental Protection Agency
- Department of Commerce, National Oceanic and Atmospheric Administration
- Department of the Interior, National Park Service
- Department of the Interior, U.S. Geological Survey
- Department of the Interior, U.S. Fish and Wildlife Service
- Department of Agriculture, U.S. Forest Service
- Department of Agriculture, Natural Resources Conservation Service
- Department of Agriculture, Farm Services Agency
- Department of Agriculture, Office of Environmental Markets
- Department of Defense, U.S. Navy
- Department of Defense, U.S. Army
- Department of Defense, U.S. Army Corps of Engineers
- Department of Transportation
- Department of Homeland Security, U.S. Coast Guard
- Other agencies, as deemed appropriate

The preservation and restoration of the Chesapeake Bay will only be achieved through the coordinated efforts of all of the Chesapeake Bay Program partners. Recognizing this need for coordination, partners work together through the program's governance and advisory committees, goal implementation teams, and workgroups to collaborate, share information, set goals, implement projects, and track program progress. This commitment to interagency coordination and partnership is a hallmark of the Chesapeake Bay Program.

Gulf of Mexico Program

Established in 1988, the Gulf of Mexico Program (GMP) is a non-regulatory EPA geographic program office founded on the threefold principles of partnership, science-based information, and citizen involvement. The GMP is one of EPA's great water body programs: the flagships of the EPA national effort which applies an adaptive regional ecosystem management approach to a large coastal freshwater and marine ecosystem. The mission of the GMP is to facilitate collaborative actions which protect, maintain, and restore the health and productivity of the Gulf of Mexico in ways consistent with the economic well-being of the region. GMP competitively funds projects, works through interagency agreements and strategic partnerships to accomplish its mission. The GMP operates through a work plan which is directly linked to the EPA's budget and strategic plan.

Specifically, all projects and partnership work is linked to one or more performance measures: water quality, habitat enhancement, environmental education, and community resilience.

The GMP provides significant leadership and coordination among state and local governments, the private sector, tribes, scientists, and citizens to align efforts that address the long decline of the Gulf Coast.

Examples of GMP's Current Coordination Efforts with Other Agencies Include:

Ecosystem Coordination: The GMP, working with USGS, USFWS and USDA, have an interagency partnership to restore and enhance coastal prairie habitat for coastal pollinators in Louisiana. This interagency partnership will work closely with landowners and state experts to improve legacy coastal prairie habitat. It is expected that this partnership will restore and enhance over 1,000 acres over the next few years and help meet pollinator habitat improvement as prioritized by the White House.

Binational support for the Gulf of Mexico geographic region: The GMP works in partnership with the United States focal point, the Department of Commerce, National Oceanic Atmospheric Administration (NOAA), and has provided technical expertise for two projects: the Mexico/United States Gulf of Mexico Large Marine Ecosystem (GoM LME) and the Caribbean Large Marine Ecosystem (CLME). For both the GoM LME and CLME, focal point agency, NOAA, is focused on fisheries concerns and marine protected areas. The EPA provides support for water quality and nutrient pollution issues.

Deepwater Horizon Oil Spill in the Gulf of Mexico: GMP works in partnership with fellow federal and state trustees and their representatives to support the ongoing Natural Resources Damage Assessment and the Restore Council (Gulf Coast Ecosystem Restoration Council).

Lower Mississippi Interagency Basin Initiative: federal agencies including US FWS, Army Corps, USDA, USGS and EPA are targeting specific watersheds to co-implement best practices with local community partners to achieve habitat and water quality improvement.

Gulf of Mexico Alliance Federal Working Group: federal co-lead agencies work in partnership to find innovative ways to support the regional planning body governance of the five Gulf States' to address common priority issues. GMP staff co-facilitate with state partners on six priority issue teams; and work to implement measurable improvement in the Gulf ecosystem and communities.

Land Based Sources (LBS) Protocol to the Cartagena Convention: with leadership from the Department of State, GMP provides expert support on the Gulf ecosystem for EPA's chair of the LBS Monitoring and Assessment Working Group. The workgroup is currently working on issues related to member country data sensitivity and reporting; delineation of Class I and Class II waters; selection of water quality parameters and agreement on values for acceptable ranges and limits of water quality parameters. This work supports the ultimate completion of the State of the Convention Area Report to the United Nations Environmental Program from the member countries.

To expand the conversation on environmentalism and working for environmental justice, the Gulf of Mexico Program, under the auspices of Region 4 and Headquarters EJ Offices, developed a Gulf of Mexico Interagency Working Group on Environmental Justice (Gulf Working Group). The Gulf Working Group is comprised of 17 agencies and is charged with assessing conditions of environmental justice communities and developing remediation strategies. There are currently two communities which have been selected through the HQ Office of Sustainability's Building Block Program for assistance. The Gulf Working Group federal agencies include the following:

- Environmental Protection Agency, Chair
- Department of Agriculture
- Department of Commerce
- Department of Defense
- Department of Education
- Department of Energy
- Department of Health and Human Services
- Department of Homeland Security
- Department of Housing and Urban Development
- Department of the Interior
- Department of Justice
- Department of Labor
- Department of Transportation
- Department of Veteran's Affairs
- General Services Administration
- Small Business Administration
- White House Offices

San Francisco Bay Delta-Estuary

The Interim Federal Action Plan for the California Bay-Delta (2009) underscored the federal government's commitment to protect and restore this critically important ecosystem – one that provides water to 25 million residents, sustains one of the world's most productive agricultural regions, and one that once supported a fishery that contributed \$600 million in annual revenue to the California economy.⁷ In 2012, EPA Region 9 issued the [Bay Delta Action Plan](#) and we are working with federal and state agencies in numerous forums to advance the improvement of water quality and the protection of aquatic life. These forums include the [Bay Delta Water Quality Control Plan](#) (WQCP) process convened by the State Water Board, and the [Bay Delta Conservation Plan](#) (BDCP) process convened by State Department of Water Resources in partnership with USBR, and the [San Francisco Estuary Partnership](#). In addition to the EPA and U.S. Bureau of Reclamation, federal agencies involved in these processes include Department of the Interior, Fish and Wildlife Service, National Marine Fisheries Service-National Oceanic and Atmospheric

⁷ http://californiafisheriesfund.org/reso_atlas.html. California fisheries are valuable assets, in both monetary and intrinsic terms. While fisheries now account for only about 2 % of California's ocean economy, landings were once over 500,000 metric tons per year, valued at over \$600 million annually. Commercial fish landings declined dramatically; by 2007, they had dropped to 173,000 metric tons valued at \$117 million.

Administration Fisheries Service, the U.S. Army Corps of Engineers, U.S. Department of Agriculture-Natural Resources Conservation Service, and U.S. Geological Survey.

Puget Sound Program

The Puget Sound Program works to protect and restore Puget Sound, which has been designated as an estuary of national significance under the Clean Water Act National Estuary Program. In addition to working with state agencies, Puget Sound tribes, the government of Canada, local governments, and non-profit organizations, the EPA Region 10 initiated and chairs the Puget Sound Federal Caucus.

The Puget Sound Federal Caucus is made up of fifteen federal agencies which have entered into a Memorandum of Understanding⁸ to better integrate, organize, and focus federal efforts surrounding Puget Sound protection and restoration. Through the Caucus, the EPA and other member agencies are aligning resources and strengthening federal coordination on Puget Sound habitat protection, research, recovery, resource management, and outreach efforts. Through these coordinated actions, federal agencies can contribute significantly to the restoration and protection of Puget Sound.

The Federal Caucus is particularly engaged in addressing the ‘Treaty Rights at Risk’ concerns raised by Puget Sound Tribes. These tribes have asked the Council on Environmental Quality to intervene on their behalf with federal agencies in the Northwest to reverse the trends in habitat loss and protect their Treaty Rights to harvest salmon and shellfish. The Federal Caucus developed an action plan and created a federal/Tribal Forum to address obstacles to watershed-specific salmon recovery plan implementation that are brought forward by individual tribes. The Federal Caucus is focusing on commitments to actions that would restore shorelines, floodplains, and water quality.

Federal Caucus agencies are establishing coordinated efforts that identify and remove fish passage barriers on federal and adjacent lands, address regulatory regimes for shoreline armoring, and align agency investment strategies to achieve multiple benefits in key floodplain and riparian environments.

The federal agencies that participate in the Puget Sound Federal Caucus are:

- Federal Highway Administration
- Federal Transit Administration
- National Oceanic and Atmospheric Administration
- National Park Service
- National Resource Conservation Service
- Navy Region Northwest
- Joint Base Lewis-McChord U.S. Army Corps of Engineers
- U.S. Coast Guard
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service

⁸<http://www.epa.gov/pugetsound/pdf/puget-sound-federal-caucus-mou-2014.pdf>.

- U.S. Geological Survey
- U.S. Forest Service
- Federal Emergency Management Agency
- Bureau of Indian Affairs

Lake Champlain

Lake Champlain was designated as a resource of national significance by the Lake Champlain Special Designation Act (Public Law 101-596) that was signed into law on November 5, 1990, (amended in 2002). A management plan for the watershed, “Opportunities for Action,” (revised 2010) was developed to achieve the goal of the Act: to bring together people with diverse interests in the lake to create a comprehensive pollution prevention, control, and restoration plan for protecting the future of the Lake Champlain Basin. The EPA’s efforts to protect Lake Champlain support the successful interstate, interagency, and international partnerships undertaking the implementation of the Plan. Federal partners include:

- Army Corps of Engineers
- Federal Emergency Management Agency
- Federal Energy Regulatory Commission
- National Oceanic and Atmospheric Administration/Sea Grant
- National Park Service
- U.S. Department of Agriculture/Natural Resources Conservation Service
- U.S. Environmental Protection Agency (Regions 1 and 2)
- U.S. Fish and Wildlife Service
- U.S. Forest Service – Green Mountain National Forest
- U.S. Geological Survey
- U.S. State Department
- International Joint Commission

Long Island Sound

The EPA supports the protection and restoration of Long Island Sound through its Long Island Sound Office, established under Section 119 of the Clean Water Act, as amended. The EPA assists the states in implementing the Sound’s 1994 Comprehensive Conservation and Management Plan (CCMP). The EPA and the States of Connecticut and New York work in partnership with regional water pollution control agencies, scientific researchers, user groups, environmental organizations, industry, and other interested organizations and individuals to restore and protect the Sound and its critical ecosystems. In addition to the stakeholders listed, federal partners include the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service, the Department of the Interior’s Fish and Wildlife Service, the U.S. Geological Survey, the Natural Resources Conservation Service, and the U.S. Army Corps of Engineers. These Federal partners have ongoing legislative and regulatory authorities and responsibilities for the protection and restoration of Long Island Sound and its physical and biological resources.

Research

While EPA is the federal agency mandated to ensure safe drinking water, other federal and non-federal entities are conducting research that complements EPA's research priority contaminants in drinking water. For example, the CDC and NIEHS conduct health effects and exposure research. FDA also performs research on children's risks.

Many of these research activities are being conducted in collaboration with EPA scientists. The private sector, particularly the water treatment industry, is conducting research in such areas as analytical methods, treatment technologies, and the development and maintenance of water resources. Cooperative research efforts have been ongoing with the American Water Works Association, Water Research Foundation, and other stakeholders to coordinate drinking water research. The EPA also is working with USGS to evaluate performance of newly developed methods for measuring microbes in potential drinking water sources.

The EPA has developed joint research initiatives with NOAA and USGS for linking monitoring data and field study information with available toxicity data and assessment models for developing sediment criteria.

EPA research will continue to assist decision makers (federal, state, tribal, and local; industry and energy sectors; and the public) in making environmentally-responsible energy extraction and processing decisions. Research devoted to unconventional oil and gas activities will focus on understanding and preventing potential impacts on water quality and ecosystems. This work aligns with a Memorandum of Agreement (MOA) EPA signed in 2012 with the Department of Energy (DOE) and the Department of Interior (DOI) to develop a multi-agency program to focus on timely, policy relevant science to support sound policy decisions by state and federal agencies for ensuring the prudent development of energy sources while protecting human health and the environment.

Goal 3-Cleaning Up Communities and Advancing Sustainable Development

Objective: Promote Sustainable and Livable Communities

Brownfields

The EPA's Brownfields and Land Revitalization Programs are key participants in the HUD-DOT-EPA Sustainable Communities Partnership to promote livability and sustainable development. The EPA Brownfields program also is partnering with the Department of Labor and National Institute of Environmental Health Sciences (NIEHS) to support environmental workforce development and fund job training and placement programs in brownfield communities. The Brownfields and Land Revitalization programs are working with USDA, HHS, and ATSDR to identify ways in which federal programs can increase food access in all communities and ensure access to quality health care. Improved access to healthy food and health care services can catalyze redevelopment that contributes to healthier and more sustainable communities. The Brownfields and Land Revitalization programs also are partnering with the National Park Service and its River and Trails Program to support Groundwork USA and individual Groundwork teams in their efforts to engage youth in community revitalization. The EPA continues to lead the Brownfields Federal

Partnership, which includes more than 20 federal agencies dedicated to the cleanup and redevelopment of brownfields properties. Partner agencies work together to prevent, assess, safely clean up, and redevelop brownfields.

Sustainable Communities

In 2009, the EPA, the U.S. Department of Transportation (DOT), and the U.S. Department of Housing and Urban Development (HUD) formed the Partnership for Sustainable Communities to help protect the environment by providing communities with more options for public transportation and better access to green and affordable housing. In FY 2017, the EPA, HUD, and DOT will work to align investments, grant criteria, and planning requirements to better support community smart growth and sustainable design efforts. This work will feed into the development of the “New Urban Agenda” and promote U.S. approaches to sustainability at the upcoming UN Habitat global conference. The EPA also will work with the U.S. Department of Agriculture on approaches to economic development that supports better environmental outcomes in rural communities, towns, and cities. Work with the Partnership and other agencies like USDA, NOAA, FEMA strengthens coordination and ensures efficient use of federal funds. The EPA also will work to make our resources and those from other federal agencies easier for communities to understand and access.

In addition, through the Arctic Council (AC), the EPA is working with HHS and the State Department to promote policies on sustainability to help improve the quality of life for local communities and Alaska Native Villages (ANVs) in the U.S. arctic. These include the development of tools to help ANVs identify sources of black carbon and take steps to mitigate this pollutant and address local health concerns.

The EPA will continue work with other federal agencies whose decisions, rules, investments, and policies influence where and how development occurs, including working with the General Services Administration (GSA) to assist in the development and inclusion of metrics into GSA tools for evaluating lease opportunities according to each building’s level of transit access and proximity to walkable destinations. Additionally, the EPA and GSA will partner to provide technical assistance to communities to integrate the siting of new federal facilities or reuse of existing facilities into neighborhood-wide efforts to improve community sustainability.

The EPA will continue to provide support to other federal agencies, such as the U.S. Department of Agriculture and the Appalachian Regional Commission for activities including jointly delivering technical assistance to rural Appalachian communities and proposing language that supports both economic development and better environmental outcomes in grant solicitations and other guidance documents. This assistance helps these agencies and the communities they work with protect the environment and increase resilience through their community development programs, policies, regulations, and resources, while meeting their core agency objectives. The EPA will seek to extend this work to the Delta Regional Authority and other agencies working in rural America. The EPA will continue to collaborate with the National Oceanic and Atmospheric Administration and the Federal Emergency Management Agency to expand efforts to deliver targeted assistance to communities recovering from natural disasters and pursuing climate change adaptation planning.

To improve the accessibility of Federal and State resources for communities, the EPA recently launched its Community Resources website (www.epa.gov/communities). This site brings together some of the federal government's best web-based tools for providing environmental information to large and small communities. For example, the National Resource Network, a significant effort by the Department of Housing and Urban Development to help American cities meet economic challenges, is a core component of the Community Resources website. This site also provides a means of disseminating the important work of the Interagency Partnership for Sustainable Communities, as described above.

The EPA also co-sponsors the Governor's Institute on Community Design with HUD and DOT. The institute works with governors and their cabinets to help states plan for extreme weather events and improve environmental and public health outcomes of community development.

Environmental Justice

The EPA will continue its work in partnership with other federal agencies to address the environmental and public health issues facing communities with environmental justice concerns. The agency will continue its efforts to work collaboratively and constructively with all levels of government, and throughout the public and private sectors. The issues range from lead exposure, asthma, safe drinking water and sanitation systems to hazardous waste clean-up, renewable energy/wind power development, and sustainable environmentally-sound economies. The EPA and its federal partners are utilizing EPA's collaborative problem-solving model, based on the experiences of federal collaborative partnerships, to improve the federal government's effectiveness in addressing the environmental and public health concerns facing communities. As the lead agency for environmental justice pursuant to Executive Order 12898 on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, the EPA shares its knowledge and experience and offers assistance to other federal agencies as they enhance their strategies to integrate environmental justice into their programs, policies, and activities. Additionally, the EPA, as convener of the Federal Interagency Working Group on Environmental Justice (EJ IWG) will continue to facilitate the active involvement of all federal agencies to implement EO 12898. In October 2015, the EJ IWG will release the FY 2016- FY 2018 Action Agenda Framework that defines the goals and activities for the EJ IWG over the next three years.

Economically Distressed Communities

The EPA will continue to support the White House Council on Strong Cities, Strong Communities, where it has been a leader in setting the agenda and implementing strategies that are being used to help economically distressed communities recover and grow in sustainable, economically resilient, and environmentally friendly ways. As part of the White House Council, the EPA has ensured that addressing environmental challenges are part of economic recovery. In particular, the EPA has brought expertise on the importance of downtown revitalization, the use of green infrastructure strategies, green demolition, and equitable development strategies to the work of the council. The EPA's influence in bringing the environment to the forefront of the work of the White House Council has impacted the work of HUD, DOT, Commerce, HHS, Homeland Security, the Small Business Administration, Justice, Labor, and many other agencies and departments. In 2015, the EPA will continue to play this important role.

Chemical Facility Safety & Security

On August 1, 2013, the White House issued Executive Order (EO) 13650 on Improving Chemical Facility Safety and Security, in response to the disaster in West, Texas. The Chemical Facility Safety and Security Working Group, established by Executive Order 13650, released the status report entitled: “*Actions to Improve Chemical Facility Safety and Security – A Shared Commitment*”⁹ on June 6, 2014, summarizing the Working Group's progress, focusing on actions to date, findings and lessons learned, challenges, and short and long-term priority actions. The EPA has initiated work on several of the actions associated with the status report action plan to expand support for local communities. These efforts include initiation and development of tools, training, and technical support to strengthen the state and local capacity of State and Tribal Emergency Response Commissions and Local and Tribal Emergency Planning Committees, as well as standard procedures for joint inspection training, response exercises, and enhanced information sharing. The EPA has also engaged key stakeholders to discuss options for modernizing regulations, guidance, and policy to enhance chemical safety at facilities and draft a proposed rule to address key options to further chemical facility safety under the Risk Management Program. The EPA will continue to coordinate with the Department of Homeland Security (DHS), the Occupational Safety and Health Administration (OSHA), and other interagency partners on activities associated with EO 13650.

U.S.-Mexico Border

The Governments of Mexico and the United States agreed, in November 1993, to assist communities on both sides of the border in coordinating and carrying out environmental infrastructure projects. The agreement between Mexico and the United States furthers the goals of the North American Free Trade Agreement and the North American Agreement on Environmental Cooperation.

A significant number of residents along the U.S.-Mexico border area are without basic services such as potable water and wastewater treatment and the problem has become progressively worse in the last few decades. Over the last several years, the EPA has continued to work with the U.S. and Mexican Sections of the International Boundary and Water Commission and Mexico's national water commission, Comisión Nacional del Agua (CONAGUA), to further efforts to improve drinking water and wastewater services to communities within 100 km on the U.S. and 300 km on the Mexico side of the U.S.-Mexico border. The U.S.-Mexico Border 2020 Program represents a successful joint effort between the U.S. and Mexican governments in working with the 10 Border States and local communities to improve the region's environmental health, consistent with the principles of sustainable development. Over the last several years, the EPA has continued to work with the U.S. and Mexican Sections of the International Boundary and Water Commission and Mexico's national water commission, Comisión Nacional del Agua (CONAGUA), to further efforts to improve drinking water and wastewater services to communities within 100 km on the U.S. and 300 km on the Mexico side of the U.S.-Mexico border.

⁹ For more information, please go to: https://www.osha.gov/chemicalexecutiveorder/final_chemical_eo_status_report.pdf.

Research

Research in ecosystems protection is coordinated government-wide through the Committee on Environment, Natural Resources, and Sustainability (CENRS). The EPA actively participates in the CENRS and all work is fully consistent with, and complementary to, other Committee member activities. EPA scientists staff two CENRS Subcommittees: the Subcommittee on Ecological Systems (SES) and the Subcommittee on Water Availability and Quality (SWAQ). The EPA has initiated discussions within the SES on the subject of ecosystem goods and services (EGS) and potential EGS collaborations are being explored with the U.S. Geological Service (USGS) and with USDA Forest Service (USFS). Within SWAQ, the Safe and Sustainable Water Resources (SSWR) research program has contributed to an initiative for a comprehensive census of water availability and quality, including the use of Environmental Monitoring and Assessment Program methods and ongoing surveys (National Aquatic Surveys) as data sources. In addition, the EPA has taken a lead role with USGS in preparing a SWAQ document outlining new challenges for integrated management of water resources, including strategic needs for monitoring and modeling methods, and identifying water requirements needed to support the ecological integrity of aquatic ecosystems.

Consistent with the broad scope of the EPA's ecosystem research efforts, the EPA has had complementary and joint programs with USFS, USGS, USDA, NOAA, BLM, NGOs, and many others specifically to minimize duplication, maximize scope, and maintain a real time information flow. For example, all of these organizations work together to produce the National Land Cover Data used by all landscape ecologists nationally. Each contributes funding, services, and research to this uniquely successful effort.

The EPA expends substantial effort coordinating its research with other federal agencies, including work with DoD in its Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program, DOE, and its Office of Health and Environmental Research. The EPA also conducts collaborative laboratory research with DoD, DOE, DOI (particularly the USGS), and NASA to improve characterization and risk management options for dealing with subsurface contamination.

The agency also is working with NIEHS, which manages a large basic research program focusing on Superfund issues, to advance fundamental Superfund research. The Agency for Toxic Substances and Disease Registry (ATSDR) also provides critical health-based information to assist the EPA in making effective cleanup decisions. The EPA works with these agencies on collaborative projects, information exchange, and identification of research issues and has a MOU with each agency. The EPA, Army Corps of Engineers, and Navy recently signed a MOU to increase collaboration and coordination in contaminated sediments research. Additionally, the Interstate Technology Regulatory Council (ITRC) has proved an effective forum for coordinating federal and state activities and for defining continuing research needs through its teams on topics including permeable reactive barriers, radionuclides, and Brownfields. The EPA has developed an MOU¹⁰ with several other agencies (DOE, DoD, NRC, USGS, NOAA, and USDA) for multimedia modeling research and development.

¹⁰ For more information, please go to: Interagency Steering Committee on Multimedia Environmental Models MOU, <http://www.iscmem.org/Memorandum.htm>.

Other research efforts involving coordination include the unique controlled-spill field research facility designed in cooperation with the Bureau of Reclamation. Geophysical research experiments and development of software for subsurface characterization and detection of contaminants are being conducted with the USGS and DOE's Lawrence Berkeley National Laboratory.

The EPA is coordinating with DoD's SERDP in an ongoing partnership, especially in the areas of sustainability research and of incorporating materials lifecycle analysis into the manufacturing process for weapons and military equipment. The EPA will continue to collaborate with the Army as part of their Net Zero Initiative, to develop and demonstrate innovative waste technologies to accomplish the Army's goal of net zero energy, water, and waste by 2020.

Several federal agencies sponsor research on variability and susceptibility in risks from exposure to environmental contaminants. The EPA collaborates with a number of the Institutes within the NIH and CDC. For example, NIEHS conducts multi-disciplinary biomedical research programs, prevention and intervention efforts, and communication strategies. The NIEHS program includes an effort to study the effects of chemicals, including pesticides and other toxics, on children. The EPA collaborates with NIEHS in supporting the Centers for Children's Environmental Health and Disease Prevention, which study whether and how environmental factors play a role in children's health and with the National Institute on Child Health and Human Development (NICHD) on the development and implementation of the National Children's Study. Additionally, the EPA, the National Institute on Minority Health and Health Disparities (NIMHD), NIEHS, and NICHD co-fund the Centers of Excellence for Research on Environmental Health Disparities. This funding broadens research on disadvantaged communities and the impacts of greater exposures of ambient hazards.

Objective: Preserve Land

Pollution prevention activities entail coordination with other federal departments and agencies. For example, the EPA coordinates with the General Services Administration (GSA) on the use of less toxic products for indoor painting and cleaning, with the Department of Defense (DoD) on the use of safer paving materials for parking lots, and with the Defense Logistics Agency on safer solvents. The program also works with the National Institute of Standards and Technology and other groups to develop standards for Environmental Management Systems to reduce environmental impacts and increase operating efficiency.

The federal government is the single largest potential source for "green" procurement in the country, for office products as well as products for industrial use. The EPA works with the Office of Federal Environmental Executive and other federal agencies and departments in advancing the purchase and use of recycled-content and other "green" products. In particular, the agency is currently engaged with other organizations within the Executive Branch to foster compliance with Executive Order 13423 on Strengthening Federal Environmental, Energy, and Transportation Management, and in tracking and reporting purchases of products made with recycled contents, in promoting electronic stewardship, and achieving waste reduction and recycling goals.

In addition, the agency is currently engaged with the DoD, the Department of Education, the Department of Energy (DOE), the U.S. Postal Service, and other agencies to foster proper

management of surplus electronics equipment, with a preference for reuse and recycling. With these agencies, and in cooperation with the electronics industry, the EPA and the Office of the Federal Environmental Executive launched the Federal Electronics Challenge which will lead to increased reuse and recycling of an array of computers and other electronics hardware used by civilian and military agencies. Many federal offices are partners in one of EPA's Sustainable Materials Management challenges, the Federal Green Challenge, which reduces the government's environmental impact in six areas: waste, purchasing, electronics, energy, water, and transportation. The EPA also collaborates with the USDA on the U.S. Food Waste Challenge, a food waste diversion program.

In addition to business, industry, and other non-governmental organizations, the EPA works with federal, state, Tribal, and local governments to encourage the proper management and reduced generation and safe recycling of hazardous wastes. The RCRA Waste Management program coordinates closely with federal agencies, primarily the DoD and DOE, which have many sites in the hazardous waste permitting universe. RCRA programs also coordinate with the Department of Commerce, the Department of Transportation, and the Department of State to ensure the safe movement of domestic and international shipments of hazardous waste. Partners in this effort include the Environmental Council of States and the Association of State and Territorial Solid Waste Management Officials. The EPA also is collaborating with DOT, the Transportation Security Agency (TSA), and the U.S. Postal Service on the development of the electronic hazardous waste manifest, or e-Manifest, system.

Objective: Restore Land

Superfund Remedial Program

The Superfund Remedial program coordinates with several other federal agencies, such as ATSDR and NIEHS, in providing numerous Superfund related services in order to accomplish the program's mission.

The U.S. Army Corps of Engineers (USACE) substantially contributes to Superfund site cleanups by providing a wide range of technical, management, and acquisition support functions to implement or oversee responsible party Superfund project implementation for the remedial and removal programs. Most notably, this federal partner has the technical design and construction expertise and contracting capability needed to assist EPA regional Superfund programs in implementing complex Superfund remedial action projects.

This Agency also provides technical on-site support to Regions in the enforcement oversight of numerous construction projects performed by private Potentially Responsible Parties.

Superfund Federal Facilities Program

The Superfund Federal Facilities program coordinates with federal agencies, states, tribes, state associations, and others to implement its statutory responsibilities to ensure proper cleanup of federally contaminated land on the National Priorities List (NPL). The program provides technical

and regulatory oversight at federal facilities to ensure human health and the environment are protected.

To ensure the long-term protectiveness of remedies, the agency will continue monitoring, overseeing progress, and improving the quality and consistency of five-year reviews being conducted at federal sites where waste has been left in place and land use is restricted. Five-year reviews are required under Section 121(c) of CERCLA and the EPA's role is to concur or make its own independent protectiveness determination. The EPA has been working collaboratively with DoD, DOE, and DOI, through a Federal Workgroup, to improve the technical quality, timeliness, and cost of the five-year review reports and to ensure that the community is aware of the protectiveness status. The workgroup continues to assess the use of best management practices and evaluate trend data to improve the five-year review process.

The EPA participates with other federal agencies on the Federal Mining Dialogue (FMD). The FMD is a cooperative initiative among federal environmental and land management agencies and provides a national level forum for federal agencies to identify and discuss lessons learned and technical mining impact issues associated with the cleanup and reuse of abandoned and inactive hard rock mine and mineral processing sites across the country.

The EPA also participates with other federal agencies on the Munitions Response Dialogue (MRD). The MRD is a multi-agency dialogue with EPA, DoD, Federal Land Managers, and states to identify and discuss issues arising from munitions site cleanups throughout the country.

EPA, DoD, and DOE participate on the Intergovernmental Data Quality Task Force (IDQTF). The IDQTF was established to address real and perceived inconsistencies and deficiencies in quality control for laboratory data within and across governmental organizations which result in greater costs, time delays, and an increase in the potential for risks. The task force is working to ensure that environmental data are of known and documented quality and suitable for their intended uses.

The Federal Facilities program continues to develop and implement innovative technologies, processes, and collaboration efforts. By working in concert with sister federal agencies, the EPA continues to promote the advancement of cleanup technologies, expansion of contaminated land reuse to support renewable energy projects, and multiple initiatives to support sustainability. These projects not only help support the agency's goal to cleanup communities and advance sustainable development, but they also facilitate the introduction of innovative solutions to both the public and private sector.

Superfund Financial Responsibility Regulations

The EPA currently is developing regulations that will require facilities in the hardrock mining and mineral processing industry to provide appropriate financial assurance for response action liabilities, so that the taxpayers do not have to pay for cleanups at these sites. This effort will require close coordination with the DOI (Bureau of Land Management) and USDA (Forest Service) related to mining/mineral processing activities on federal lands, and with DoD and DOE regarding the other industrial facilities that will be potentially impacted.

Resource Conservation and Recovery Act (RCRA) Program

The RCRA Corrective Action program coordinates closely with other federal agencies, primarily the DoD and DOE, which have many sites in the corrective action universe. Encouraging federal facilities to meet the RCRA Corrective Action program's goals of investigating and cleaning up hazardous releases remains a top priority. The EPA also coordinates with other agencies, primarily DoD, on cleanup and disposal issues posed by polychlorinated biphenyls (PCBs), under authority of the Toxic Substances Control Act (TSCA).

Emergency Preparedness and Response

The EPA plays a major role in reducing the risks that accidental and intentional releases of harmful substances and oil pose to human health and the environment. The EPA implements the Emergency Preparedness program in coordination with the DHS through the U.S. Coast Guard acting as the chair for the National Response Team and co-chair for each Regional Response Team. These teams, which have member participation from other key federal agencies, deliver federal assistance to state, local, and Tribal governments to plan for and respond to natural disasters and other major environmental incidents. This requires continuous coordination with many federal, state, and local agencies. The agency participates with other federal agencies to develop national planning and implementation policies at the operational level.

The National Response Framework (NRF), under the direction of the DHS, provides for the delivery of federal assistance to states to help them deal with the consequences of terrorist events, acts of malfeasance, as well as natural and other significant disasters. The EPA maintains the lead responsibility for the NRF's Emergency Support Function #10 covering inland hazardous materials and petroleum releases and participates in the Federal Emergency Support Function Leaders Group which addresses NRF planning and implementation at the operational level.

The EPA coordinates its preparedness activities with DHS, FEMA, the Federal Bureau of Investigation, and other federal agencies, states, and local governments. The EPA will continue to clarify its roles and responsibilities to ensure that agency security programs are consistent with the national homeland security strategy.

The EPA also works with FEMA on hazard mitigation and recovery through a Memorandum of Agreement (MOA) that seeks to incorporate sustainable communities approaches into planning for and recovering from natural disasters including the effects of climate change. This MOA allows the EPA and FEMA to collaborate on policies, as well as with other agencies like NOAA, HUD, and DOT, to help communities become more resilient to natural disasters, the effects of climate change on communities, and mitigation strategies (to date, the Office of Policy has worked in communities in Iowa, North Carolina, North Dakota, Rhode Island, Vermont, and others).

Oil Spills

Under the Oil Spill Program, the EPA works with other federal agencies such as U.S. Fish and Wildlife Service, the U.S. Coast Guard (USCG), NOAA, FEMA, DOI, DOT, DOE, and other federal agencies and states, as well as with local government authorities to develop Area

Contingency Plans. The Department of Justice also provides assistance to agencies with judicial referrals when enforcement of violations becomes necessary. In addition, the EPA and the USCG work in coordination to address oil spills nationwide.

Objective: Strengthen Human Health and Environmental Protection in Indian Country

On June 26, 2013, President Obama issued Executive Order 13647, establishing the White House Council on Native American Affairs, as well as a national policy to ensure the Federal Government carries out its trust responsibilities in a coordinated and effective manner, engaging in a true and lasting government-to-government relationship with federally recognized tribes. The Council is chaired by the Department of the Interior Secretary, and consists of the heads of 31 executive departments, agencies, and offices, including the EPA Administrator. In this role, the Administrator will work through the Council to protect tribal lands, environments, and natural resources, and promote respect for tribal cultures. The Administrator and the Interior Secretary established the Council's Subgroup on Environment and Climate Change to address climate change challenges facing tribes. The Subgroup has representation from over a dozen federal agencies collaborating on projects dedicated to supporting tribes as they develop climate change adaptation projects and establish capacities for resiliency.

The EPA has a long history of working with other federal agencies to address shared environmental and human health concerns. The EPA, the Department of the Interior, the Department of Health and Human Services, the Department of Agriculture, and the Department of Housing and Urban Development have worked through Memoranda of Understandings (MOU) as partners to improve infrastructure on Tribal lands.

All five federal partners renewed their commitment to the Infrastructure Task Force in 2013 by signing an MOU to continue federal coordination in delivering water infrastructure, wastewater infrastructure, and solid waste management services to tribal communities. The Infrastructure Task Force will build on prior partner successes, including improved access to funding and reduced administrative burden for tribal communities through the review and streamlining of agency policies, regulations, and directives as well as improved coordination of technical assistance to water service providers and solid waste managers through regular coordination meetings and web-based tools.

The lack of access to safe drinking water and basic sanitation in Indian Country continues to threaten the public health of American Indian and Alaska Native (AI/AN) communities. According to 2010 data from the Indian Health Service (IHS), approximately 12% of AI/AN homes do not have safe water and/or basic sanitation facilities. The efficiencies and partnerships resulting from the Infrastructure Task Force will directly assist tribes with their infrastructure needs. For more information, please see the web link: <http://www.epa.gov/tribalportal/trprograms/infra-water.htm>

Consultation

The EPA continues to work closely with other federal agencies as well as the Domestic Policy Council to implement President Obama's directive regarding the Tribal consultation process. The President's November 5, 2009 Memorandum directs each executive department to develop a

detailed plan to implement Executive Order (EO) 13175, “Consultation and Coordination with Indian Tribal Governments,” issued by President Clinton in 2000. Under EO 13175, “all departments and agencies are charged with engaging in regular and meaningful consultation and collaboration with Tribal officials in the development of federal policies that have Tribal implications and are responsible for strengthening the government-to-government relationship between the United States and Indian tribes.”

Goal 4 – Ensuring the Safety of Chemicals and Preventing Pollution

Objective: Ensure Chemical Safety

The EPA coordinates with and uses information from many federal departments and agencies, as well as many state Departments/Agencies and international organizations, in our efforts to protect America’s health and environment from unacceptable risks from pesticides and toxic chemicals. EPA’s activities include collaboration with individual government organizations on specific technical or regulatory issues and more broadly with groups of organizations on a range of issues. Many of these activities are described below.

To fulfill the EPA’s responsibilities for regulating the sale and use of pesticides, the agency uses a range of outreach and coordination approaches for pesticide users and other stakeholders, government agencies, and the general public. Outreach and coordination activities through our field programs are essential to effective implementation of regulatory decisions governing the sale and use of pesticides. Coordination activities protect workers and the environment, including endangered species, provide training for pesticide applicators, promote integrated pest management and environmental stewardship, support compliance through EPA’s Regional programs and those of the states and tribes, and promote international cooperation.

The EPA’s coordination with the U.S. Department of Agriculture (USDA) and state lead agencies for pesticides supports the Certification and Training program for pesticide applicators who use the riskiest pesticides. States also play an important role in developing and implementing Worker Protection programs and are involved in numerous special projects and investigations, including emergency response efforts. The EPA’s regional offices provide technical guidance and assistance to the states and tribes in the implementation of all pesticide program activities.

In addition to the training that the EPA provides to farm workers and applicators of restricted use pesticides, the EPA works with the USDA’s Cooperative Extension Service designing and delivering specialized training for various groups. Such training includes instructing private applicators on the proper use of personal protective equipment and application equipment calibration, handling spill and injury situations, farm family safety, preventing pesticide spray drift, and pesticide and container disposal. Other specialized training is provided to public works employees on grounds maintenance, to pest control operators on proper insect identification, and on weed control for agribusiness.

The EPA relies on data from HHS and USDA to supplement data from the pesticide industry to help the agency assess the potential risks of pesticides in the diets of adults and children. The EPA relies on pesticide residue data in food commodities generated by USDA in its Pesticide Data

Program to improve its dietary risk assessment of pesticides. These data and those from other sources, including FDA, help EPA achieve its mission of protecting human health. These data sources serve as a showcase for federal cooperation on pesticide and food safety issues. Other collaborative efforts include developing and validating methods to analyze domestic and imported food samples for chemicals of concern, such as carcinogens and neurotoxins. The agency also coordinates with FDA's National Toxicology Program and HHS' Center for Disease Control and Prevention, Agency for Toxic Substances and Disease Registry, and the National Institute for Environmental Health Sciences on a variety of technical and communication issues.

While the EPA is responsible for making pesticide registration and tolerance decisions, primary responsibility for pesticide enforcement activities under FIFRA rests with States. The FDA enforces tolerances for pesticide residues in most foods and the USDA enforces tolerances for meat, poultry, and some egg products. These joint efforts protect Americans from unhealthy pesticide residue levels.

In addition to a focus on protecting humans from pesticide risks, EPA is very engaged with other government agencies on many important environmental issues. The agency collaborates extensively with the Department of Interior's Fish and Wildlife Services and the Department of Commerce's National Oceanic and Atmospheric Administration's National Marine Fisheries Service on risk assessment methods for identifying species at risk from pesticide use and approaches to mitigate unacceptable risks. The EPA also is working with USDA, state agencies, and other entities to address risks to honey bees and other pollinators that are very important to our environment and the production of food crops.

The President established the Pollinator Health Task Force in June of 2014 to expand Federal efforts and take new steps to reverse pollinator losses and help restore populations to healthy levels. EPA is co-chairing the Task Force with USDA to develop a National Pollinator Health Strategy and Action Plans for research, education, habitat, and public/private partnerships for pollinator health. The Task Force includes members from Department of State, DOD, DOI, HUD, DOT, DOE, Department of Education, CEQ, Domestic Policy Council, GSA, NSF, OMB, National Security Council Staff, and OSTP. The Task Force published the strategy and action plans in the spring of 2015 and will continue interagency pollinator work into the future.

The EPA's objective is to promote improved health and environmental protection domestically and when feasible in other countries. The success of this objective is dependent on successful coordination not only with other countries, but also with various international organizations such as the North American Commission on Environmental Cooperation (CEC), the Organization for Economic Cooperation and Development (OECD), the United Nations Environment Program (UNEP), the World Health Organization, and the Codex Alimentarius Commission.

The EPA cooperates with governments in other countries bilaterally or through treaties, such as the North American Free Trade Agreement (NAFTA), or other formal agreements, such as the US/Canada Regulatory Cooperation Council. The EPA's cooperation with Canada and Mexico through NAFTA and the RCC and many other fora, such as Persistent Organic Pollutants (POPs) and Prior Informed Consent, plays in coordinating helps policies, harmonizing guidelines, sharing information, collaborating on regulatory decision-making, building other nations' capacity to

reduce risks, developing strategies to deal with potentially high risk pesticides, improving international trade, and developing greater confidence in the safety of the food supply and the environment.

The EPA has developed a strong network of government, private sector and non-governmental partners working to achieve reductions in global mercury use and emissions, particularly when adverse U.S. impacts would be likely. The EPA works closely with the Department of State in leading the technical and policy engagement for the United States in the Minamata Convention on Mercury. The EPA provided the impetus for UNEP's Global Mercury Partnership, and the agency continues to work with developing and other developed countries in the context of that program. In addition to the Department of State, the EPA collaborates closely with several federal agencies including DOE and USGS. As we prepare for implementation of the Minamata Convention, the EPA continues to support the Global Mercury Partnership and sharing of information through the Arctic Council on reducing releases of mercury which disproportionately impact indigenous arctic communities. The EPA is entering into an Inter-Agency Agreement with the Department of Energy's Argonne National Laboratory to provide support for the International Implementation of the Minamata Convention.

The nexus of environmental protection and international trade has long been a priority for the EPA engagement. The EPA has played a key role in ensuring that trade-related activities sustain environmental protection since the 1972 Trade Act mandated interagency consultation by the U.S. Trade Representative (USTR) on trade policy issues. EPA is a member of the Trade Policy Staff Committee (TPSC) and the Trade Policy Review Group (TPRG), interagency mechanisms that are organized and coordinated by USTR to provide advice, guidance, and clearance to the USTR in the development of U.S. international trade and investment policy.

The World Health Organization recognizes air pollution as a major global health threat,¹¹ and vehicles are a significant source of this pollution. The EPA will continue its work in the Partnership for Clean Fuels and Vehicles (PCFV), a global partnership that has worked to reduce air pollution from the global fleet of on-road vehicles. The EPA also will continue to strengthen its activities in the Arctic by working with Alaska, tribes, federal agencies, and the private sector to build international support for U.S. environmental policy objectives through the Arctic Council. These objectives cover a range of topics, including reducing emissions and exposure to mercury and short-lived climate pollutants—black carbon,¹² in particular. These actions will help lay the groundwork for the U.S. government assuming the 2015-2017 Chairmanship of the Arctic Council and support the National Strategy for the Arctic Region¹³. Beyond the Arctic region, the EPA will continue to work with the State Department, UNEP, and other international partners as part of the international Climate and Clean Air Coalition (CCAC).

The EPA collaborates with Department of Defense, Department of Homeland Security, USDA, FDA, and other federal and state organizations on a variety of technical and policy homeland security issues. These issues focus on protecting the public and food and agriculture sectors from

¹¹ World Health Organization, Ambient (outdoor) air quality and health; Fact sheet N°313 Updated March 2014; <http://www.who.int/mediacentre/factsheets/fs313/en/>.

¹² <http://www.epa.gov/blackcarbon/basic.html>.

¹³ http://www.whitehouse.gov/sites/default/files/docs/nat_arctic_strategy.pdf.

threats associated with use of chemical and biological agents. The EPA collaborates with these organizations on research pertaining to effective disinfectants for high threat microorganisms, planning for response to various potential incidents, training and development of policies and guidelines. The EPA continues to partner with OSHA, NIOSH, and CPSP on risk assessment and risk mitigation activities.

One of the agency's most valuable resources on pesticide issues is the Pesticide Program Dialogue Committee (PPDC), a representative Federal Advisory Committee, which brings together a broad cross-section of knowledgeable individuals from organizations representing divergent views to discuss pesticide regulatory, policy, and implementation issues. The PPDC consists of members from federal and state government agencies, industry/trade associations, pesticide user and commodity groups, consumer and environmental/public interest groups, and others. The PPDC provides a structured environment for meaningful information exchanges and consensus building discussions, keeping the public involved in decisions that affect them. Dialogue with outside groups is essential if the agency is to remain responsive to the needs of the affected public, growers, and industry organizations.

To effectively participate in international agreements on chemicals (e.g., persistent organic pollutants (POPs), mercury and heavy metals), the EPA continues to coordinate with other federal agencies and external stakeholders, such as Congressional staff, industry, and environmental groups. Similarly, the agency typically coordinates with the Food and Drug Administration's (FDA) National Toxicology Program, the Centers for Disease Control/Agency for Toxic Substances and Disease Registry (CDC/ATSDR), the National Institute of Environmental Health Services (NIEHS), and the Consumer Product Safety Commission (CPSC) on matters relating to OECD test guideline harmonization.

As part of the EPA's chemical safety program, the agency has identified a Work Plan of chemicals for further assessment under the Toxic Substances Control Act (TSCA). The EPA uses the TSCA Work Plan to help focus and direct the activities of its existing chemicals program, by performing assessments of chemicals on the TSCA Work Plan. If an assessment identifies unreasonable risks to humans or the environment, EPA will pursue risk reduction action. EPA consults regularly with other federal agencies on its ongoing and planned assessment and risk reduction activities, including the U.S. Department of Housing and Urban Development (HUD), the Department of Defense (DoD), the Centers for Disease Control and Prevention (CDC), and the Agency for Toxic Substances and Disease Registry (ATSDR) in the Department of Health and Human Services (HHS), the Occupational Safety and Health Administration (OSHA), the Mine Safety and Health Administration (MSHA), the National Institute of Occupational Safety and Health (NIOSH) in the Department of Labor, and the Consumer Products Safety Commission (CPSC). These consultations on chemicals of common interest foster improved communication and coordination on scientific, health, and regulatory issues. For example, EPA identified health risks from certain consumer and commercial uses of the Work Plan chemicals trichloroethylene (TCE), and from paint removers methylene chloride and n-methylpyrrolidone (NMP). The Agency is initiating rulemakings under TSCA Section 6 to address these risks and will determine what requirements may be necessary to adequately protect the public, workers, and the environment from unreasonable risks associated with these chemicals. In developing the assessments and risk

reduction actions, EPA has been seeking input from other federal agencies to help inform the Agency's efforts.

The EPA shares information, where appropriate, with the Occupational Safety and Health Administration (OSHA) worker protection programs, the National Institute of Occupational Safety and Health (NIOSH) for research, and the Consumer Product Safety Commission (CPSC) for informing consumers about products through labeling. EPA frequently consults with these agencies on project design, progress, and the results of chemical testing projects. The EPA also consults with these other agencies on their testing and monitoring programs and incorporates them, as appropriate, into chemical assessment and risk reduction activities.

The success of the EPA's Lead Risk Reduction program is due in part to effective coordination with other federal agencies, states and tribes through the President's Task Force on Environmental Health Risks and Safety Risks to Children. The EPA will continue to coordinate with the Department of Housing and Urban Development (HUD) to clarify how new rules may affect existing EPA and HUD regulatory programs, and with the Occupational Safety and Health Administration (OSHA) on worker protection issues. The EPA will continue to work closely with state and federally recognized tribes to ensure that authorized state and tribal programs continue to comply with requirements established under TSCA and that the ongoing federal accreditation, certification, and training program for lead professionals is administered effectively.

The EPA has a MOU with HUD to coordinate efforts on lead-based paint issues. As a result of the MOU, EPA and HUD have co-chaired the President's Task Force since 1997. There are fourteen other federal agencies, including the CDC and DOD, on the Task Force. HUD and the EPA also maintain the National Lead Information Center and share enforcement of the Real Estate Notification and Disclosure Rule. The EPA also works with the Department of Health and Human Services, CDC, the National Institute of Environmental Health Sciences, and the Department of State on global lead paint issues through work with the Global Alliance to Eliminate Lead Paint (GAELP), which the EPA and CDC currently chairs. Ultimately, reducing global market demand for paint with lead additives will help reduce the amount of lead in products manufactured abroad for sale overseas and in the United States.

The EPA's Pollution Prevention and Toxics Program is committed to fulfillment of all of EPA's Indian Policies and adhering to the Chemical Safety and Pollution Prevention Program's Tribal Strategic Plan. The program participates in the EPA's meetings with the National Tribal Operations Committee (NTOC) and other tribal engagement groups on a wide variety of related activities and actions that impact tribal governments, lands, and communities. Some of the most recent outreach and consultation efforts have focused on assessments of TSCA Work Plan Chemicals and other chemical issues such as PCB use. In addition, The National Tribal Toxics Council (NTTC) provides tribes with an opportunity for offering advice on the development of EPA chemical management and pollution prevention programs that affect tribes, policies, and activities. The EPA's Pollution Prevention and Toxics Program meets with the NTTC in person twice per year and conducts monthly teleconferences with its members.

Research

The EPA's Toxicity Forecaster (ToxCast™) is part of an ongoing multi-agency effort under the Tox21 collaboration MOU. Tox21 pools chemical research, data and screening tools from multiple federal agencies including the EPA, the National Institutes of Health (NIH), and the Food and Drug Administration (FDA). ToxCast utilizes existing resources to develop faster, more thorough predictions of how chemicals will affect human and environmental health. Tox21 and ToxCast are currently screening nearly 10,000 environmental chemicals for potential toxicity in high-throughput screening assays at the NIH Center for Advancing Translational Sciences (NCATS). The EPA also has an agreement to provide NCATS funding to support the effort.

The EPA recently announced the public release of chemical screening data on 1,800 chemicals that was gathered through advanced techniques, including robotics and high-throughput screening, as part of the ongoing Tox21 federal collaboration to improve chemical screening. In FY 2017, the EPA will continue to engage stakeholder and partner communities to develop a framework for providing confidence in the use of high-throughput screening data to address a broad range of risk assessment needs. A significant element of EPA's FY 2017 research strategy includes expanded coverage of ToxCast by increasing the toxicity pathways and the types of chemicals that can be screened. Tox21's high-speed robot screening system will continue testing thousands of unique chemicals, which will include nanomaterials and other chemicals found in industrial and consumer products, food additives, and drugs, for potential toxicity.

Health Canada and EPA are collaborating to explore approaches for using new data streams to assess chemicals for potential risks to human health. Health Canada is currently under a regulatory mandate to develop Chemical Management Plan 3 (CMP3). The chemicals in CMP3 include chemicals lacking traditional toxicity data. Health Canada is working with EPA CSS to determine how to use high-throughput screening data and other types of non-traditional chemical data to help fill the data gaps for the chemicals in CMP3.

The Next Generation (NexGen) of Risk Assessment is a multi-agency project chaired by the EPA that builds upon ToxCast research efforts. CDC's ATSDR and the State of California's Environmental Protection Agency also participate, in addition to most Tox21 collaborators. Using the wealth of data currently being generated on molecular systems biology and gene-environment interactions, NexGen will develop approaches to make these data useful for human health risk assessment. The goal is to make risk assessments faster, less expensive, and more scientifically robust. In particular, NexGen is intended to help assess the array of chemicals that are potential environmental contaminants of concern that are too numerous to address by traditional approaches.

The EPA coordinates its nanotechnology research with other federal agencies through the National Nanotechnology Initiative (NNI),¹⁴ which is managed under the Subcommittee on Nanoscale Science, Engineering and Technology (NSET) of the NSTC Committee on Technology (CoT). The EPA has collaborated with many federal agencies in the development of a government-wide approach to nanotechnology research through the Committee on Environment, Natural Resources, and Sustainability Charter (CENRS) at the White House's Office of Science and Technology Policy (OSTP). The agency's Science to Achieve Results (STAR) program, which awards research

¹⁴ For more information, see <<http://www.nano.gov>>.

grants to universities and non-profit organizations, has issued its recent nanotechnology grants¹⁵ jointly with NIOSH, NIEHS, and NSF. The EPA and the U.S. Consumer Product Safety Commission (CPSC) are collaborating to develop protocols to assess the potential release of nanomaterials from consumer products; develop credible rules for consumer product testing to evaluate exposure; and determine potential public health impacts of nanomaterial used in consumer products.

The EPA coordinates its research on endocrine disruptors with other federal agencies through the interagency working group on endocrine disruptors under the auspices of the Toxics and Risk Subcommittee of the CENR. The EPA coordinates its biotechnology research through the interagency biotechnology research working group and the agricultural biotechnology risk analysis working group of the Biotechnology Subcommittee of NSTC's Committee on Science.

The EPA consults extensively with other federal agencies about the science of individual IRIS assessments, as well as improvements to the IRIS program, through an interagency working group including public health agencies (e.g., CDC, ATSDR, NIOSH, and NIEHS), many other agencies (e.g., DOD, NASA, SBA, DOT, DOE, DOI, etc.), and White House offices (OMB, OSTP, and CEQ). The EPA also coordinates with ATSDR through a memorandum of understanding on the development of toxicological reviews and toxicology profiles, respectively. The EPA contracts with the National Academy of Sciences' National Research Council (NRC) on very difficult and complex human health risk assessments through consultation or review. The NRC currently is conducting a comprehensive review of the IRIS assessment development process, including EPA's recent enhancements.

Homeland Security research is conducted in collaboration with numerous agencies, leveraging funding across multiple programs to produce synergistic results. The EPA's National Homeland Security Research Center (NHSRC) works closely with the DHS to assure that EPA's efforts are directly supportive of DHS priorities without duplication. The EPA also is working with DHS to provide support and guidance in the startup of their University Centers of Excellence program. Recognizing that the DoD has significant expertise and facilities related to biological and chemical warfare agents, the EPA works closely with the Edgewood Chemical and Biological Center (ECBC), the Technical Support Working Group, the Army Corps of Engineers, and other Department of Defense organizations to address areas of mutual interest and concern. In conducting biological agent research, the EPA also is collaborating with CDC. The EPA works with DOE to access and support research conducted by DOE's National Laboratories, as well as to obtain data related to radioactive materials.

In addition to these major collaborations, the NHSRC has relationships with numerous other federal agencies, including the U.S. Air Force, U.S. Navy, FDA, USGS, and NIST. Also, the NHSRC is working with state and local emergency response personnel to better understand their needs and build relationships, which will enable the quick deployment of NHSRC products. In the water infrastructure arena, the NHSRC is providing information to the Water Information Sharing Networks program. The NAS also has been engaged to provide advice on the long-term direction of the water research and technical support program.

¹⁵ For an example, see <http://es.epa.gov/ncer/rfa/2005/2005_star_nano.html>.

Furthermore, HSRP is collaborating with the U.S. Army's Net Zero Initiative to develop and demonstrate innovative water technologies in efforts to increase resource efficiency and balance resource use by accomplishing net zero energy, waste, and water on installations by 2020.

Objective: Promote Pollution Prevention

The EPA is involved in a broad range of pollution prevention (P2) activities, which yield reductions in hazardous materials generated and used, greenhouse gas emissions and water use and produce economic benefits in the public and private sectors. For example, the Environmentally Preferable Purchasing (EPP) program helps federal agencies meet their mandates under Executive Order 13693, *Planning for Federal Sustainability in the Next Decade* to buy greener products and services. This program is aimed at reducing the federal government's environmental footprint and stimulating demand for greener products and services. The EPA works closely with other federal agencies, including the General Services Administration (GSA), U.S. Department of Agriculture (USDA), National Institute of Standards and Technology (NIST), and DOE, as well as with other stakeholders and experts, including standards development organizations, professional and trade associations, manufacturers, suppliers, recyclers, academics and environmental advocacy groups, to develop guidance and tools to make environmentally preferable purchasing practical.

Pursuant to the National Environmental Policy Act and as mandated by Section 309 of CAA, the EPA reviews all Federal agencies' Environmental Impact Statements (EISs) and environmental assessments associated with major projects to assess potential environmental impacts and identify options for avoiding or mitigating them. The EPA also collaborates with agencies to improve their NEPA analyses. The EPA administers the filing and information system for all federal EISs under agreement with the Council on Environmental Quality and provides liaison with the CEQ on this function and related matters of NEPA program administration. The agency also provides a central point of information for the international community on environmental impact assessment techniques and methodologies and on the conduct of environmental enforcement and compliance assurance activities.

Under the Economy, Energy and Environment (E3) framework, EPA works with the Departments of Agriculture, Commerce, Energy, and Labor and the Small Business Administration in communities across the country to strengthen their local manufacturing base and create new jobs. E3 joins forces with local communities to connect small and medium-sized manufacturers with experts from federal agencies and states. In each E3 community, teams conduct customized technical assessments and offer practical, sustainable approaches that manufacturers can incorporate into their operations. These assessments aim to reduce energy consumption, minimize carbon footprints, prevent pollution, increase productivity, and drive innovation throughout each facility.

In addition, the EPA serves as the federal government lead for a United Nations Environment Program voluntary international sustainability partnership called the Ten-Year Framework of Programs on Consumption and Production (10YFP). Under the 10YFP, the EPA coordinates with State, USDA, GSA, and others, to promote U.S. methodologies for life cycle analysis and sustainable public procurement, sharing of data with key government and private sector partners in developed and developing countries.

Goal 5- Protecting Human Health and the Environment by Enforcing Laws

Objective: Address pollution problems through vigorous and targeted civil and criminal enforcement. Enforce environmental laws to achieve compliance.

The Enforcement and Compliance Assurance Program coordinates closely with the Department of Justice (DOJ) on all civil and criminal environmental enforcement matters. In addition, the program coordinates with other agencies on specific environmental issues as described herein.

The Enforcement and Compliance Assurance program coordinates with the Chemical Safety and Hazard Investigation Board, OSHA, and the Agency for Toxic Substances and Disease Registry in preventing and responding to accidental releases and endangerment situations, with the Bureau of Indian Affairs (BIA) on Tribal issues relative to compliance with environmental laws on Tribal lands, and with the Small Business Administration (SBA) on the implementation of the Small Business Regulatory Enforcement Fairness Act (SBREFA). The program also shares information with the Internal Revenue Service (IRS) on cases which require defendants to pay civil penalties, thereby assisting the IRS in assuring compliance with tax laws. In addition, it collaborates with the SBA to maintain current environmental compliance information at Business.gov, a website initiated as an e-government initiative in 2004, to help small businesses comply with government regulations. Coordination also occurs with the United States Army Corps of Engineers (ACE) on wetlands issues.

The United States Department of Agriculture/Natural Resources Conservation Service (USDA/NRCS) has a major role in determining whether areas on agricultural lands meet the definition of wetlands for purposes of the Food Security Act and civil enforcement works with them as necessary.. The EPA's Enforcement and Compliance Assurance program also coordinates with USDA on the regulation of animal feeding operations and on food safety issues arising from the misuse of pesticides and shares joint jurisdiction with the Federal Trade Commission (FTC) on pesticide labeling and advertising. EPA works with Customs and Border Protection on implementing the secure International Trade Data System across all federal agencies and on pesticide imports and on hazardous waste and Cathode Ray Tube exports. The EPA and the Food and Drug Administration (FDA) share jurisdiction over general-purpose disinfectants used on non-critical surfaces and some dental and medical equipment surfaces. The EPA and FDA also collaborate and share information on Good Laboratory Program inspections to avoid duplication of inspections and maximize efficient use of limited resources. The agency has entered into an agreement with Housing and Urban Development (HUD) concerning enforcement of the Toxic Substances Control Act (TSCA) lead-based paint notification requirements.

The Criminal Enforcement program coordinates with other federal law enforcement agencies (i.e., Federal Bureau of Investigation (FBI), Customs, DOL, U.S. Treasury, USCG, DOI and DOJ) and with international, state and local law enforcement organizations in the investigation and prosecution of environmental crimes. The EPA also actively works with DOJ to establish task forces that bring together federal, state, and local law enforcement organizations to address environmental crimes. In addition, the program has an Interagency Agreement with the DHS to provide specialized criminal environmental training to federal, state, local, and Tribal law enforcement personnel at the Federal Law Enforcement Training Center (FLETC) in Glynco, GA.

Under Executive Order 12088 on Federal Compliance with Pollution Control Standards, the EPA is directed to monitor compliance by federal agencies with all environmental laws. The Federal Facility Enforcement program coordinates with other federal agencies, states, local, and Tribal governments to ensure compliance by federal agencies with all environmental laws. The EPA also will continue its efforts to support the FedCenter, the Federal Facilities Environmental Stewardship and Compliance Assistance Center (www.fedcenter.gov), which is now governed by a board of more than a dozen contributing federal agencies.

The Enforcement and Compliance Assurance program collaborates with the states and tribes. States perform the vast majority of inspections, direct compliance assistance, and enforcement actions. Most EPA statutes envision a partnership between the EPA and the states under which the EPA develops national standards and policies and the states implement the program under authority authorized by the EPA. If a state does not seek approval of a program, the EPA must implement that program in the state. Historically, the level of state approvals has increased as programs mature and state capacity expands, with many of the key environmental programs approaching approval in nearly all states. The EPA will increase its efforts to coordinate with states on training, compliance assistance, capacity building, and enforcement. The EPA will continue to enhance the network of state and Tribal compliance assistance providers.

The Enforcement and Compliance Assurance program chairs the Interagency Environmental Leadership Workgroup established by Executive Order 13148 on Greening the Government through Environmental Leadership. The Workgroup consists of over 100 representatives from most federal departments and agencies. Its mission is to assist all federal agencies with meeting the mandates of the Executive Order, including implementation of environmental management systems and environmental compliance auditing programs, reducing both releases and uses of toxic chemicals, and compliance with pollution prevention and pollution reporting requirements. The program also will work with its regions, states, and directly with a number of other federal agencies to improve Resource Conservation and Recovery Act (RCRA), Clean Water Act (CWA), and other statutory compliance at federal facilities, which array the full range of agency tools to promote compliance in an effective and efficient manner.

The EPA works directly with Canada and Mexico bilaterally and in the Trilateral Commission for Environmental Cooperation (CEC). The EPA's border activities require close coordination with the Bureau of Customs and Border Protection, the Fish and Wildlife Service, the DOJ, the Department of State, and the States of Arizona, California, New Mexico, and Texas. The EPA is the lead agency and coordinates U.S. participation in the CEC. The EPA works with the National Oceanic and Atmospheric Administration (NOAA), the Fish and Wildlife Service, and the U.S. Geological Survey on CEC projects to promote biodiversity cooperation and with the Office of the U.S. Trade Representative to reduce potential trade and environmental impacts such as invasive species.

The Enforcement and Compliance Assurance program, together with the EPA's International program, provides training and capacity building to foreign governments to improve their compliance and enforcement programs. This support helps create a level playing field for U.S. business engaged in global competition, helps other countries improve their environmental

conditions, and ensures U.S. compliance with obligations for environmental cooperation as outlined in various free trade agreements. In support of these activities, the EPA works closely with the Department of State, selected U.S. Embassies, the USAID, the USTR, the DOJ, the International Law Enforcement Academies, the U.S. Forest Service, and the DOI. The EPA also participates in the OECD Mutual Acceptance of Data program, designed to garner international recognition of testing data in support of pesticides and chemical registrations.

Superfund Enforcement

As required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Executive Order 12580 on Superfund Implementation, the Enforcement and Compliance Assurance program coordinates with other federal agencies in their use of CERCLA enforcement authority. This includes the coordinated use of CERCLA enforcement authority at individual hazardous waste sites that are located on both nonfederal land (EPA jurisdiction) and federal lands (other agency jurisdiction). As required by Executive Order 13016 amending Executive Order 12580, the agency also coordinates the use of CERCLA Section 106 administrative order authority by other departments and agencies.

The EPA also coordinates with DOI, USDA, and Commerce to ensure that appropriate and timely notices, required under CERCLA, are sent to the Natural Resource Trustees to commence the Natural Resource Damage Assessment process. DOJ also provides assistance to EPA with judicial referrals seeking recovery of response costs incurred by the U.S., injunctive relief to implement response actions, or enforcement of other CERCLA requirements.

Under Executive Order 12580, the Superfund Federal Facilities Enforcement program assists federal agencies in complying with CERCLA. It ensures that: 1) all federal facility sites on the National Priorities List have interagency agreements, also known as Federal Facility Agreements or FFAs, which provide enforceable schedules for the progression of the entire cleanup; 2) FFAs are monitored by the EPA for compliance; 3) federal sites that are transferred to new owners are transferred in an environmentally responsible manner; and 4) assistance is available, to the extent possible, to assist federal facilities in complying with their cleanup responsibilities. It is this program's responsibility to ensure that federal agencies, by law, comply with Superfund cleanup obligations "in the same manner and to the same extent" as private entities. After years of service and operation, some federal facilities contain environmental contamination, such as hazardous wastes, unexploded ordnance, radioactive wastes, or other toxic substances. To enable the cleanup and reuse of such sites, the Federal Facilities Enforcement program coordinates creative solutions that protect both human health and the environment. These enforcement solutions help restore facilities so they can once again serve an important role in the economy and welfare of local communities and the country.

COORDINATION WITH OTHER FEDERAL AGENCIES

Enabling Support Programs

Office of the Administrator (OA)

OA supports the leadership of the Environmental Protection Agency's (EPA) programs and activities to protect human health and safeguard the air, water, and land upon which life depends. Several program responsibilities include congressional and intergovernmental relations, regulatory management and economic analysis, program evaluation, intelligence coordination, the Science Advisory Board, children's health, the small business program, environmental training, and outreach.

The EPA's Office of Policy (OP) interacts with a number of federal agencies during its rulemaking activities. Per Executive Order (EO) 12866 – Regulatory Planning and Review, OP submits “significant” regulatory actions to the Office of Management and Budget (OMB) for interagency review prior to signature and publication in the *Federal Register*. In addition, OP coordinates the EPA's review of other agency's actions submitted to OMB for review under EO 12866. Under the Congressional Review Act, rules are submitted to each House of Congress and to the Comptroller General of the United States. OP reviews, edits, tracks, and submits regulatory actions and other documents that are published by the Office of the Federal Register. For regulations that may have a significant economic impact on a substantial number of small entities, OP collaborates extensively with the Small Business Administration and OMB. Finally, OP also leads the EPA's review of draft Executive Orders and Presidential Memorandum.

From time to time, OP collaborates with other federal regulatory and natural resource agencies (e.g., the United States Department of Agriculture (USDA), the Department of Energy (DOE), Department of the Interior (DOI), and the National Oceanic Atmospheric Administration (NOAA)) to collect economic data used in the conduct of economic cost-benefit analyses of environmental regulations and policies and to foster improved interdisciplinary research and reporting of economic information. This is achieved in several ways, such as representing the EPA on interagency workgroups or committees tasked with measuring the economic health and welfare benefits of federal policies and programs. For example, OP is currently evaluating the feasibility of beginning a new national level water based recreation survey. The initial planning stages for a pilot study on the Great Lakes region is currently beginning. To implement the full survey we would potentially partner with the other agencies interested in water resources such as the DOI and USDA.

OP partners with other federal agencies to improve the quality of federal program evaluation studies that gather empirical evidence to assess whether and why programs achieve outcomes and how programs might be changed to improve results. OP supports forums for experts to share and improve environmental evaluation methodologies and represents the EPA on interagency workgroups geared toward improving federal capacity to conduct or oversee rigorous and objective evaluation studies.

OP supports interagency, government-wide efforts that do not fall within the scope of any single program office. For example, OP is a key participant in government-wide discussions on the application of sustainable purchasing practices in federal acquisitions. In this effort, OP has partnered with acquisition leaders in the USDA, the Department of Defense (DOD), the DOE, the Department of Health and Human Services (DHHS), the Department of Homeland Security (DHS), the General Services Administration (GSA), the National Aeronautics and Space Administration (NASA), and others to ensure that federal spending meets or exceeds federal sustainability requirements and to realize greenhouse gas reductions and other benefits. This network of federal procurement professionals is seeking to integrate sustainability into purchasing in a way that makes the process simpler and more effective for all involved. This effort supports the requirements of EO 13693, “Planning for Federal Sustainability in the Next Decade,” as well as OMB’s Category Management Initiative.

The EPA supports the work of the interagency Council on Climate Preparedness and Resilience. The Council was established in 2013 under EO 13653 (“Preparing the United States for the Impacts of Climate Change”) and was charged with overseeing all priority federal government actions related to building and strengthening the adaptive capacity of communities across the nation. In particular, the EPA chairs the Agency Adaptation Planning Work Group for the Council. The Work Group is responsible for overseeing Section 5 (“Federal Agency Planning for Climate Change Related Risk”) of EO 13653 and is charged with supporting the development and implementation of Climate Change Adaptation Plans by *all* federal departments and agencies. These plans include actions responding to recommendations to the President from the State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience. The Work Group also is responsible for overseeing the interagency Community of Practice (CoP), and for working with the U.S. Global Change Research Program’s (USGCRP) Adaptation Science Work Group to ensure the USGCRP provides timely and useful information to federal agencies as they implement their Climate Change Adaptation Plans. The EPA co-chairs the CoP with the DOI to provide a forum for staff and managers from all federal agencies that provides opportunity for information sharing, collaboration and coordination on issues related to implementation of agencies’ and departments’ Climate Change Adaptation Plans.

The Administrator of the EPA and the Secretary of the HHS co-chair the President’s Task Force on Environmental Health Risks and Safety Risks to Children established by EO 13045. The Task Force comprises representatives of 17 federal departments and White House offices. A senior staff steering committee, co-chaired by the Director of the EPA’s Office of Children’s Health Protection (OCHP), coordinates interagency cooperation on Task Force priority areas. As part of this effort, the program will coordinate with other related agencies to improve federal government-wide support in implementing children’s health legislative mandates and children’s health outreach. This will include providing children’s environmental health expertise on interagency activities and coordinating expertise from program offices. Through the Task Force, the EPA will work to advance its contributions to federal initiatives – including the Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities, Advancing Healthy Housing – A Strategy for Action (a report from the Federal Healthy Homes Work Group), and the President’s Climate Action Plan.

OCHP and the Agency for Toxic Substances and Disease Registry (ATSDR) partner to support Pediatric Environmental Health Specialty Units (PEHSUs). PEHSU is a national network of academically based medical experts in children's environmental health who are available to assist health-care professionals, parents, or other child caregivers. The PEHSU network provides information on prevention, diagnosis, management, and treatment of health effects from environmental exposures in children. PEHSU staff works with federal, state, and local agencies to address children's environmental health issues in homes, schools, and communities. OCHP and ATSDR management establish priorities and direction to the PEHSU through directives in RFAs and routine network meetings.

Office of the Chief Financial Officer (OCFO)

OCFO makes active contributions to standing interagency management committees, including the Chief Financial Officers Council, focusing on improving resources management and accountability throughout the federal government. OCFO actively participates on the Performance Improvement Council which coordinates and develops strategic plans, performance plans, and performance reports as required by law. In addition, OCFO participates in numerous OMB-led E-Government initiatives such as the Financial Management and Budget Formulation and Execution Lines of Business and has interagency agreements with the DOI's Interior Business Center (IBC) for processing agency payroll. OCFO provides a Relocation Resource Center capable of managing a "one-stop shop" for domestic and international relocations. The EPA currently provides services internally to the EPA, as well as externally to the Transportation Security Administration, USDA, OPM, U.S. Department of Labor (DOL), U.S. Patent and Trademark Office, and two offices within the DHHS. OCFO participates with the Bureau of Census in maintaining the Federal Assistance Awards Data System. OCFO also coordinates appropriately with Congress and other federal agencies, such as the Department of Treasury, the Government Accountability Office (GAO), and the GSA.

Office of Administration and Resources Management (OARM)

OARM is committed to working with federal partners that focus on improving management and accountability throughout the federal government. OARM provides leadership and expertise to government-wide activities in various areas of human resources, grants management, contracts management, suspension and debarment, and homeland security. These activities include specific collaboration efforts with federal agencies and departments through:

- Chief Human Capital Officers, a group of senior leaders that discuss human capital initiatives across the federal government.
- The Legislative and Policy Committee, a committee comprised of other federal agency representatives who assist the OPM in developing plans and policies for training and development across the government.
- The Chief Acquisition Officers Council, the principal interagency forum for monitoring and improving the federal acquisition system. The Council also is focused on promoting the President's specific initiatives and policies in all aspects of the acquisition system.

- The Award Committee for E-Government (E-Gov), which provides strategic vision for the portfolio of systems/federal wide supporting both federal acquisition and financial assistance. Support also is provided to the associated functional community groups, including the Procurement Committee for E-Gov, the Financial Assistance Committee for E-Gov, and the Intergovernmental Transaction Working Group.
- The Interagency Suspension and Debarment Committee (ISDC), a representative committee of federal agency leaders in suspension and debarment. The Committee facilitates lead agency coordination, serves as a forum to discuss current suspension and debarment related issues, and assists in developing unified federal policy. Besides actively participating in the ISDC, OARM: 1) provides instructors for the National Suspension and Debarment Training Program offered through the Federal Law Enforcement Training Center, and 2) supports the development of coursework and training on the suspension and debarment process for the Inspector General Academy and the Council of the Inspectors General on Integrity and Efficiency.
- The Financial Management Line of Business (FMLoB), which has been expanded to also encompass the Grants Management Line of Business. The combined FMLoB, with the Department of Treasury as the managing partner, will more closely align the financial assistance and financial management communities around effective and efficient management of funds. OARM also participates in the Grants.gov Users' Group, as well as the Federal Demonstration Partnership which is designed to reduce the administrative burdens associated with research grants.
- The Partnership for Sustainable Communities initiative, a collaborative effort with the Department of Housing and Urban Development and the Department of Transportation, improves the alignment and delivery of grant resources to communities designated under certain environmental programs. It also helps identify cases in the program that may warrant consideration of suspension and debarment.
- The Interagency Committee on Federal Advisory Committee Management (Committee Management Officer Council), which provides leadership and coordination on federal advisory committee issues and promotes effective and efficient committee operations government-wide. In addition to serving on the Council, OARM works with the GSA Committee Management Secretariat to establish and renew advisory committees, conduct annual reviews of advisory committee activities and accomplishments, maintain committee information in a publicly accessible online database, and develop committee management regulations, guidance, and training. Further, OARM participates on the GSA Federal Advisory Committee Act (FACA) Attorney Council Interagency Workgroup to keep abreast of developments in the statutory language, case law, interpretation and implementation of the FACA.

In addition, throughout FY 2016 and FY 2017, OARM will continue working with the DOI's IBC, which is an OPM and OMB approved Human Resources Line of Business shared service center. IBC offers HR transactional processing, compensation management and payroll processing,

benefits administration, time and attendance, HR reporting, talent acquisition systems, and talent management systems. OARM also continues its charter membership on the OPM HR Line of Business Multi Agency Executive Strategy Committee (MAESC), providing advice and recommendations to the Director of OPM as well as additional government-wide executive leadership, for the implementation of the HR Line of Business vision, goals, and objectives. OARM also is working with OMB, GSA, DHS, and Department of Commerce's National Institute of Standards and Technology to continue to implement the Smart Card program.

Office of Environmental Information (OEI)

To support the EPA's overall mission, OEI collaborates with a number of other federal agencies, states, and Tribal governments on a variety of initiatives, including making government more efficient and transparent, protecting human health and the environment, and assisting in homeland security. OEI is primarily involved in the information technology (IT), information management (IM), and information security aspects of the projects on which it collaborates.

The Chief Information Officer (CIO) Council: The CIO Council is the principal interagency forum for improving practices in the design, modernization, use, sharing, and performance of federal information resources. The Council develops recommendations for IT/IM policies, procedures, and standards; identifies opportunities to share information resources; and assesses and addresses the needs of the federal IT workforce.

eRulemaking: The EPA serves as the Program Management Office (PMO) for the eRulemaking Program. The eRulemaking Program's mission encompasses two areas: to improve public access, participation in, and understanding of the rulemaking process; and to improve the efficiency and effectiveness of agency partners in promulgating regulations. The eRulemaking Program maintains a public website, <http://www.regulations.gov/>, which enables the general public to access and submit comments on various documents that are published in the Federal Register, including proposed regulations and agency-specific notices. The Federal Docket Management System (FDMS) is the agency side of Regulations.gov. FDMS enables agencies to administer public submissions regarding regulatory and other documents posted by the agencies on the Regulations.gov website. The increased public access to the agencies' regulatory process enables a more informed public to provide supporting technical/legal/economic analyses to strengthen the agencies' rulemaking vehicles. As the PMO, the EPA coordinates the operations of the eRulemaking Program through its 39 partner departments and independent agencies (comprising more than 177 agencies, boards, commissions, and offices). The administrative boards work with the PMO on day-to-day operations, ongoing enhancements and long-range planning for program development. These boards (the Executive Committee and the Advisory Board) have representative members from each partner agency and deal with contracts, budget, website improvements, improved public access, records management, and a host of other regulatory concerns that were formally only agency-specific in nature. Coordination and leadership from the OMB, Office of Information and Regulatory Affairs, and partner agencies allows for a more uniform and consistent presentation of rulemaking dockets across government. This coordination is further realized by the fact that more than 90 percent of all federal rules promulgated annually are managed through the eRulemaking Program.

Freedom of Information Act (FOIA): The EPA serves as the lead for the FOIAonline, a multi-agency solution that enables the EPA and partner agencies to meet their responsibilities under FOIA while creating a repository of publicly released FOIA records for reuse. Through FOIAonline, the public has the ability to submit and track requests, search and download requests and responsive records, correspond with processing staff, and file appeals. Agency users are provided with a secure, login-access web site to receive and store requests, assign and process requests (and refer to other agencies), post responses online, produce the annual FOIA report to the Department of Justice, and manage records electronically. Current federal partners include the EPA, the Department of Commerce, the National Archive and Records Administration, the Merit Systems Protection Board, Pension Benefit Guarantee Corporation, Federal Labor Relations Authority, Customs and Border Protection, the Department of the Navy, GSA, Federal Communications Commission, the Small Business Administration, and DOJ's Office of Information Policy.

The National Environmental Information Exchange Network (EN): The EN is a partnership among states, tribes, territories, and the EPA. It revolutionizes the exchange of environmental information by allowing these partners to share data efficiently and securely over the Internet. The EN uses technology, data standards, open-source software, shared services, reusable tools, and applications to provide real-time access to higher quality data. This approach improves data accessibility, streamlines processes, reduces operational costs, and saves time and resources for all of the partners, ultimately leading to improved environmental decision making. Leadership for the EN is provided by the Exchange Network Leadership Council (ENLC), which is co-chaired by the EPA and a state partner. The ENLC works with representatives from the EPA, state, and territorial environmental agencies, and Tribal organizations to manage the Exchange Network.

Automated Commercial Environment/International Trade Data System (ACE/ITDS): ITDS is the electronic information exchange capability, or "single window," through which businesses will transmit data required by participating agencies for the import or export of cargo. ACE is the system being built by Customs and Border Protection (CBP) to ensure that its customs officers and other federal agencies have the information they need to decide how to handle goods and merchandise being shipped into or out of the United States. It also will be the way those agencies provide CBP with information about potential imports/exports. ITDS eliminates the need, burden and cost of paper reporting. It also allows importers and exporters to report the same information to multiple federal agencies with a single submission, and facilitates movement of cargo by automating processing of the import and exports. ITDS provides the capability for industry to consolidate reporting for commodities regulated by multiple agencies. For these consolidated reports, the industry filers will receive the appropriate status response when their filings meet each agency's reporting requirements. Once all agency reporting requirements have been met, filers can receive a coordinated single U.S. government response to proceed into the commerce of the United States.

The EPA has the responsibility and legal authority to make sure pesticides, toxic chemicals, vehicles and engines, ozone-depleting substances, and other commodities entering and hazardous waste exiting the country meet its human health and environmental standards. The EPA's ongoing collaboration with CBP on the ACE/ITDS effort will greatly improve the efficiency of processing these shipments through information exchange between the EPA and CBP and automated

processing of electronic filings. The EPA is one of the leading agencies working with CBP towards the goal to automate the current manual paper review process for admissibility so that importers and brokers (referred to collectively as Trade) can know before these commodities are loaded onto an airplane, truck, train, or ship if their shipment meets the EPA's reporting requirements. As a result of this automated review, Trade can greatly lower its cost of doing business and customs officers at our nation's ports will have the information on whether shipments comply with our environmental regulations.

The EPA's work on ACE/ITDS builds on the EPA's technical leadership in using Web services to exchange data with the Central Data Exchange (CDX) using Exchange Network and CBP services. The EPA will continue pilot tests for electronic reporting and processing of EPA-regulated imports for ozone depleting substances, vehicle and engine and pesticide imports, and hazardous waste exports. As determined by CBP, the pilots will roll out the electronic capabilities from the initial few ports at the start of the pilots to the 300 plus ports nationwide. As the pilots are rolled out, the EPA and CBP will work closely with the Trade filers to ensure ACE is performing as intended and that CBP port operations and the EPA's enforcement personnel are leveraging the use of ACE in their processing of these shipments. These pilots will use the data exchanges to provide an automated check of the electronic filings (rather than manual review of paper filings) and provide timely messages to the filer on the status of their shipment, thereby reducing the reporting burden and time for Trade to file entries for legitimate goods entering the United States. Each of the EPA's regulatory programs will provide key reference information that will be moved to CBP via Web services so the information reported by Trade can be checked against the EPA-approved importers, commodities, and registered products. Redundant data elements that the EPA, CBP and other agencies collect on the separate forms/filings can be reported once and used many times by many agencies. This simplified entry along with automated review of import and export filings will greatly facilitate the movement of legitimate goods while minimizing the effort needed by the Trade community as well as by CBP and the EPA. Automating document review is critical for agencies such as the EPA that have limited staff at the ports, providing a "virtual presence" at the more than 300 ports nationwide.

The EO 13659, Streamlining the Export/Import Process for America's Business, includes a milestone to have ITDS complete by December, 2016. The EPA is working with CBP and Trade to complete all of the pilots by that timeframe.

Geospatial Information: The EPA works extensively with DOI, NOAA, U.S. Geological Survey (USGS), NASA, USDA, and DHS on developing and implementing geospatial approaches to support various business areas. It also works with 25 additional federal agencies through the activities of the federal Geographic Data Committee (FGDC) and the OMB Geospatial Line of Business (Geo LoB), for which the EPA leads several key initiatives. The EPA also participates in the FGDC Steering Committee and Executive Committee. A key component of this work is developing and implementing the National Spatial Data Infrastructure (NSDI) and the National GeoPlatform. The key objective of the NSDI is to make a comprehensive array of national spatial data – data that portray features associated with a location or are tagged with geographic information and can be attached to and portrayed on maps – easily accessible to both governmental and public stakeholders. Use of this data, in tandem with analytical applications, supports several key EPA and government-wide business areas. These include: ensuring that human health and

environmental conditions are represented in the appropriate contexts for targeting and decision making; enabling the assessment, protection and remediation of environmental conditions; and aiding emergency first responders and other homeland security activities. The EPA supports geospatial initiatives through efforts such as the EPA Geospatial Platform, the EPA Environmental Dataset Gateway, the National Environmental Information Exchange Network, National Environmental Policy Act (NEPA) Assist, EPA Metadata Editor, Facilities Registry System (FRS) Web Services, and My Environment. The EPA also works closely with its state, Tribal, and international partners in a collaboration that enables consistent implementation of data acquisition and development, standards, and technologies supporting the efficient and cost effective sharing and use of geographically-based data and services.

Office of the Inspector General (OIG)

The EPA Inspector General is a member of the Council of Inspectors General on Integrity and Efficiency (CIGIE), an organization comprised of federal Inspectors General (IGs), GAO, and the Federal Bureau of Investigation (FBI). The CIGIE coordinates and improves the way IGs conduct audits, investigations, and internal operations. The CIGIE also promotes joint projects of government-wide interest and reports annually to the President on the collective performance of the IG community. The EPA OIG coordinates criminal investigative activities with other law enforcement organizations such as the FBI, Secret Service, and DOJ. In addition, the OIG participates with various inter-governmental audit forums and professional associations to exchange information, share best practices, and obtain or provide training. The OIG also promotes collaboration among the EPA's partners and stakeholders in its participation of Hurricane Sandy Oversight and its outreach activities. Additionally, the EPA OIG initiates and participates in collaborative audits, program evaluations, and investigations with OIGs of agencies with an environmental mission such as the DOI and USDA, and with the EPA as well as other federal, state, and local law enforcement agencies as prescribed by the IG Act, as amended. As required by the IG Act, the EPA OIG coordinates and shares information with the GAO. The EPA OIG also serves as the Inspector General of the U.S. Chemical Safety and Hazard Investigations Board.

MAJOR MANAGEMENT CHALLENGES

Introduction

The Reports Consolidation Act of 2000 requires the Inspector General to identify the most serious management challenges facing the EPA, briefly assess the agency's progress in addressing them, and report annually.

The EPA has established procedures for addressing its major management challenges. As part of the agency's Federal Management Financial Integrity Act process, the EPA senior managers meet with representatives from the EPA's Office of Inspector General, the Government Accountability Office, and the Office of Management and Budget to hear their views on key management challenges facing the agency. The EPA managers also use audits, reviews, and program evaluations conducted internally and by OIG, GAO, and OMB to assess program effectiveness and identify potential management issues. The EPA recognizes that management challenges, if not addressed adequately, may prevent the agency from effectively meeting its mission. The EPA remains committed to addressing all management issues in a timely manner and to the fullest extent of its authority.

The following discussion summarizes each of the FY 2015 management challenges identified by the EPA's OIG and the GAO and presents the agency's response.

1. Addressing EPA's Emerging Role in Climate Change

Summary of Challenge: In 2013, the GAO designated climate change as a "High Risk" area, noting that climate change poses management challenges for the federal government at large, and that the EPA will play a role in addressing this challenge. Additionally, GAO states that the federal government is not well positioned to address the fiscal exposure presented by climate change and needs a government-wide strategic approach with strong leadership to manage related risks.

Agency Response: The EPA plays a key role in implementing President Obama's Climate Action Plan. This includes working closely with states and other stakeholders to develop and implement carbon pollution standards for new and existing power plants, promoting energy efficiency and renewable energy, setting additional greenhouse gas (GHG) standards for the transportation sector, and actively participating in climate change adaptation activities.

Recognizing that climate change cuts across many programs and offices, EPA's senior leadership has taken steps to expand and improve communication and coordination on emerging climate change issues. EPA offices working on climate change have established coordination mechanisms including daily planning calls, regular meetings at the Deputy Administrator level, and extensive outreach across offices and regions. These processes will ensure that the agency receives information and input, draws effectively on its resources, and provides useful information to its stakeholders around the country. The agency also is participating in multi-agency strategic discussions and providing technical advice and analysis on the full range of domestic climate policies and technologies. This includes transportation; energy efficiency, renewable energy and

combined heat and power; technologies and strategies to reduce methane emissions; and new technologies, such as carbon capture and storage.

On August 3, 2015, President Obama and the EPA announced the Clean Power Plan (CPP), a historic and important step in reducing carbon pollution from power plants that takes real action on climate change. The CPP is designed to strengthen the fast-growing trend toward cleaner and lower-polluting American energy. It gives states and utilities the time to preserve ample reliable and affordable power for all Americans. The final CPP is the result of unprecedented outreach to states, tribes, stakeholders and the public, including more than 4.3 million comments the EPA received on the proposed rule. Additionally, the EPA issued the final Carbon Pollution Standards for new, modified, and reconstructed power plants, and proposed a Federal Plan and model rule to assist states in implementing the CPP.

The agency's regulatory actions and implementation of ongoing voluntary partnership programs to address climate change include:

- Continuing to implement the first-ever harmonized Department of Transportation and the EPA fuel economy and GHG emission standards for light-duty vehicles and heavy-duty vehicles.
- Continuing to implement the GHG Reporting Program.
- Continuing to implement the ENERGY STAR Program across the residential, commercial, and industrial sectors.

The EPA continues to deliver on all commitments under its ongoing partnership programs to reduce GHGs, focused on energy efficiency, transportation, and other sectors. The experience and knowledge gained through these programs also is informing the EPA's input into the broader climate change policy discussion.

2. Reducing Pollution in the Nation's Water

***Summary of Challenge:** According to the GAO, progress has slowed in reducing water pollution and improving water quality. The EPA needs to revise outdated effluent guidelines for many industrial categories and assess new treatment technologies that are available to use to address "end-of-pipe" sources of pollution. Total Maximum Daily Loads (TMDLs), which address "non-point source" pollution, can be more effective if they address roles and responsibilities for implementation and challenge the voluntary nature of the approach.*

Agency Response: The EPA agrees that having improved screening processes for industrial wastewater discharge would improve the agency's ability to implement its effluent guidelines responsibilities under the Clean Water Act (CWA). Thus, the agency has focused efforts on identifying and evaluating additional sources of data on the hazards posed by discharges from industrial categories, going beyond traditional approaches. Further, the EPA is more thoroughly considering information on current and available treatment technologies for industrial categories.

Regarding the cleanup of impaired waters, the EPA acknowledges that there are program management changes as well as Congressional action needed to improve water quality. The EPA is implementing a series of enhancements in program management to improve the review and

approval process for TMDLs; to strengthen the Section 319 non-point source grant program; to strengthen the EPA's oversight of state programs; and to ensure that 319-funded projects have characteristics that are likely to make them successful. Moreover, the EPA instituted changes to the non-point source data system to better track cleanup projects funded under 319 and is in the process of developing additional program metrics to better document incremental improvements to water quality and efforts to protect watersheds and waters. The EPA also continues to improve coordination and collaboration with USDA to increase the effectiveness of federal activities in key impaired waters and watersheds.

EPA Regions 2 and 3 are working to reduce nutrient and sediment pollution in the Chesapeake Bay watershed by implementing the Chesapeake Bay TMDL, which establishes maximum amounts of nitrogen, phosphorus, and sediment that the Chesapeake Bay can receive and still meet water quality standards. The seven Bay watershed jurisdictions developed Watershed Implementation Plans (WIPs) that describe how they will reduce their loads of these pollutants to the Bay and its tributaries. In June 2015, the EPA provided interim assessments to the jurisdictions on their progress toward meeting 2014-2015 milestones and WIP goals. As a result of these annual assessments, the EPA can increase its level of oversight of the jurisdictions as necessary and can take actions, such as conditioning or redirecting grants, to ensure adequate progress. The EPA also provided an interim assessment to federal agencies on their progress toward meeting their 2014-2015 water quality milestones set under the strategy for implementing Executive Order 13508. The goals and milestones outline the steps the jurisdictions and federal agencies are taking toward having all pollution control measures in place by 2025 to fully restore the Chesapeake Bay.

The EPA continues to take action to improve program implementation through better guidance, improved non-point source grant conditions, increased oversight of state program implementation, and better data collection on incremental improvements in water quality and TMDL implementation. These actions include:

- Formed a workgroup to improve TMDL review and approval process.
- Completed a study with states on GIS reporting and reached agreement on the need to conduct catchment-based indexing of waters to improve the data which tracks water quality improvements over time.
- Developing new performance measures to show where improvements in water quality are occurring.
- Issued new Non-Point Source Program and Grants Guidelines to improve tracking and reporting of program outcomes for states' non-point source programs.
- Issued guidance to states to assist in updating their non-point source management programs; 100 percent of states will have completed review and revised their programs by end of 2015.
- Reviewed new industrial wastewater hazard data and information sources, which resulted in two detailed studies and one preliminary study under the effluent guidelines program.
- Developed a new Industrial Wastewater Treatment Technologies Database.

3. Providing Assurance that Public Drinking Water is Safe

Summary of Challenge: *GAO acknowledges that the EPA has made progress on providing assurance that public drinking water is safe. In January 2014, GAO reported that the EPA had implemented three recommendations made in GAO's May 2011 report related to improving the Unregulated Contaminant Monitoring Rule (UCMR) Program. GAO reports that, nevertheless, the UCMR program still faces several outstanding challenges, including uncertainty in true occurrence of certain contaminants because of a fixed monitoring frequency that can miss seasonal or sporadic variations; statutory cap of 30 contaminants every 5 years, which restricts the ability to collect data on additional contaminants that could be monitored for additional little cost; and lag in regulatory determination supported by occurrence data.*

Agency Response: The EPA is continually working to improve its oversight to ensure protection of underground sources of drinking water. The EPA's Underground Injection Control (UIC) Program has a solid oversight process, including a close working relationship with its state partners. Recognizing that geology and hydrology vary across the country and that states have requirements and solutions tailored to their individual circumstances, the EPA worked with its state partners to undertake a number of activities to proactively address areas of emerging concerns. These efforts are designed to ensure regulatory safeguards are in place, improve implementation and understanding of state and the EPA UIC programs across the nation, and ensure the program is achieving its intended purpose of protecting underground sources of drinking water.

In February 2015, the agency released the EPA-State UIC National Technical Workgroup report, *Minimizing and Managing Potential Impacts of Injection-Induced Seismicity from Class II Disposal Wells: Practical Approaches*. This report was developed cooperatively with states to help protect underground sources of drinking water by reducing the chances for induced seismicity. The report can help UIC managers evaluate the potential for induced seismicity in a planned injection operation and describes permit conditions that can be added to manage the potential for induced seismicity. The EPA continues to work with individual states to implement the recommendations in the report.

The EPA is evaluating whether its current oversight activities are the most appropriate and essential to fulfilling its oversight responsibilities to ensure underground sources of drinking water (USDW) protection. The agency will evaluate the potential to expand and validate the use of remote approaches to oversight, recognizing that the objectives of on-site evaluations on an annual basis may be accomplished in other ways or at decreased frequency. The EPA is committed to ongoing improvement of the process to review, approve and codify state regulatory changes so that they are adequately enforced. The agency has completed the development of standard operating procedures to document roles and responsibilities and ways to avoid duplicative steps. Recently, the agency completed the development and implementation of several templates for publishing public notices and rules in the *Federal Register* which will standardize the rulemaking process.

The EPA views the program as effective and integral to the agency's efforts to assess and address emerging contaminant and welcomes opportunities for improvements. The EPA has made

improvements over the first three monitoring cycles (from UCMR 1 to UCMR 2 to UCMR 3) and expects that UCMR 4 will reflect improvements based on lessons learned, stakeholder input, and the GAO recommendations. The EPA also is considering the practicality and appropriateness of a shorter period for contaminant monitoring to address the concern about the availability of UCMR data to support Regulatory Determinations. The EPA will continue to work within the statutory authority established by the Safe Drinking Water Act as it selects the most appropriate contaminants for UCMR monitoring. The EPA notes that GAO has identified the statutory cap of 30 contaminants as a matter for Congressional consideration.

The EPA has undergone a workgroup process to develop options for UCMR 4 and is developing the proposed rule. In June 2014 the EPA held a public meeting and webinar to describe efforts to date to develop UCMR 4. This meeting/webinar exemplifies the agency's commitment to engage our stakeholders earlier in the process (relative to prior UCMR cycles) and complements a March 2013 public meeting/webinar focused on the development of analytical methods for Contaminant Candidate List (CCL) priorities. EPA managers responsible for the CCL, UCMR, and Regulatory Determination programs meet regularly and have specifically discussed the potential for better aligning the collection of UCMR data with the Regulatory Determination process.

4. Safe Reuse of Contaminated Sites

Summary of Challenge: The OIG cites concerns related to EPA management controls for designating sites as Ready for Anticipated Uses or Protective for People and for maintaining accurate designations in the long term, especially in situations where: states take over long-term monitoring and maintenance responsibilities for Superfund cleanups; environmental professionals performed proper environmental investigation as part of certifications for due diligence; and entities outside the agency perform oversight of the requirement to meet "continuing obligations" at Brownfield properties funded by the EPA. Further, the OIG wants the EPA to finalize vapor intrusion guidance, train staff on vapor intrusion issues and finalize toxicity values for trichloroethylene and perchloroethylene.

Agency Response: Cleaning up contaminated sites and ensuring their safe reuse over the long term is an agency priority and central to the EPA's mission. EPA, state, and Tribal response programs continue to make progress in addressing contaminated sites to protect human health and the environment and support the safe use of properties. The agency believes that it is communicating site risks and remedy information and will continue to seek opportunities to improve communication and facilitate an increased understanding of the cleanup process to ensure protectiveness.

As noted by the OIG, the EPA's authority and control over contaminated sites varies depending on the statutory authority under which the site is being addressed. EPA's ability to oversee and manage the long-term stewardship of contaminated sites must be based on these differences in its legal authority, and state and local governments' responsibilities. The agency has the most direct control over sites undergoing cleanup through the Superfund program, as it has the authority to order cleanups, provide oversight, seek penalties for non-compliance, and negotiate the cleanup process. Forty-four states are authorized to implement the federal RCRA Corrective Action Program and have the primary decision-making responsibility to ensure safe long-term

remedies. In unauthorized states, and where work share arrangements have been made, EPA regions are the lead for ensuring protective long-term remedies. The agency retains enforcement authority at state delegated sites to ensure the proper cleanup and management of hazardous wastes. The Brownfield Program provides funding to eligible entities to cleanup sites. Brownfield sites are cleaned up in accordance with state cleanup levels and oversight. Cleanups under the Underground Storage Tank program are typically conducted and overseen through state programs; however, the EPA typically conducts the cleanup from leaking underground storage tanks on Tribal lands. For many of the cleanup programs, the maintenance for long-term stewardship in many circumstances rests with a state, local, trust or other private entity.

One of the EPA's priority goals is the number of sites ready for anticipated use (RAU). This measure is met when 1) a site has no pathway for human exposures to unacceptable levels of contamination based on current site conditions, 2) all cleanup goals are achieved for media that may affect anticipated land use, and 3) all institutional controls identified as part of the response action are in place. Any determination made for the purposes of the RAU measure is based on the information available at the time the determination is made and may change if the site conditions change or if new or additional information is discovered regarding the contamination or conditions on the site. RAU is a performance measure, and not a reporting of site-specific risk. As such, parties interested in finding out what uses would be protective for a particular property (e.g. land owners or developers) should rely on site-specific cleanup documents and site-specific institutional controls.

Some of the actions the agency has taken to improve communication and understanding of the RAU measure include the following:

- Clarified the language in our public communication materials to emphasize that the RAU is a performance measure and not a reporting of site-specific risk.
- Revised web applications to remove the RAU designation on Brownfield sites.
- Strengthened existing term and conditions language in Brownfields cleanup grants to ensure that information regarding grantee-funded efforts is updated as part of grant closeout activities.¹⁶
- Worked with states during the midyear reporting period to ensure Underground Storage Tanks Program data were properly submitted.
- Worked with regional offices and states on how to document the RAU milestones in the RCRA Corrective Action Program.

On June 11, 2015, the agency released two companion guides to address vapor intrusion risk from both petroleum and non-petroleum based subsurface contaminants. The first guide, *Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air*, is intended for use at any site being evaluated by the EPA pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, or the corrective action provisions of the RCRA, as amended. This guide also is intended for use by the EPA's Brownfield grantees, or state agencies acting pursuant to CERCLA or an

¹⁶ This grantee reported data, however, reflects a snapshot in time towards the end of that grant period, and conditions may change after the grant is closed.

authorized RCRA corrective action program where vapor intrusion may be of potential concern. The second guide, *Technical Guide for Addressing Petroleum Vapor Intrusion at Leaking Underground Storage Tank Sites*, is intended for use at any site subject to petroleum contamination from underground storage tanks where vapor intrusion may be of potential concern. Consistent with the agency's commitment to the Inspector General, the EPA is actively developing outreach and training materials to ensure all relevant stakeholders are familiar with the two guides and their content.

5. Cost and Pace of Cleanup at Superfund and other Hazardous Waste Sites

Summary of Challenge: *According to the GAO, the EPA continues to make progress in identifying hazardous waste sites requiring cleanup. However, recent GAO reports indicate that not only will cleanup costs be substantial, but problems with the accuracy and completeness of data prevent the agency from estimating future cleanup costs. The GAO recommends that the agency assess the comprehensiveness and reliability of the data it collects and, if necessary, improve the data to provide aggregated information.*

Agency Response: The EPA recognizes the challenges in describing the multiple facets of the Superfund Program concisely and realizes that many sites face significant uncertainties regarding future site cleanup requirements as a result of, among other things, unique and oftentimes unknown site conditions. Numerous factors contribute to these uncertainties, including the type and extent of contamination at the site, questions about the effectiveness of remedial technologies, shifting cleanup standards, the viability and cooperativeness of responsible parties, states' ability to provide statutorily required cost share assurances, and community acceptance of proposed remedies. Due to these significant uncertainties, aggregate estimates of future costs and performance, especially on an annual basis, are bound by large ranges, which limit the contribution such information provides to annual appropriation decision makers.

Since the inception of the Superfund Program, the EPA has provided a mix of site-specific and aggregate data to Congress through the annual budget process and other avenues to facilitate annual Superfund appropriation decisions. The agency recognizes the importance of informing and educating partners and stakeholders about the EPA's commitment to, and progress toward, environmental cleanup, and continues to explore options to share information about cleanup plans and progress at sites.

Under the 2010 Integrated Cleanup Initiative (ICI), the EPA introduced a new remedial action project completion measure which responds to GAO's recommendations to provide more data on site progress. In addition, as a follow on to the ICI, in November 2012, the Superfund Remedial program initiated a comprehensive review of its operations to identify options to maintain its effectiveness in achieving its core mission of protecting human health and the environment in the face of diminishing funding availability. Several areas are being considered in this program review to capture important technical developments in the cleanup process, as well as innovations in remedial project management. Finally, in an effort to improve transparency and accountability, the Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which fully integrates site schedules, resource planning and accomplishment reporting with official

supporting documentation. The program anticipates being able to better plan and report site progress as a result of the enhanced functionality of the new tools.

6. Transforming EPA's Processes for Assessing and Controlling Toxic Chemicals/EPA's Framework for Assessing and Managing Chemical Risk

Summary of Challenge: The OIG and GAO believe that the EPA's effectiveness in assessing and managing chemical risks is hampered in part by limitations on the agency's authority to regulate chemicals under the Toxic Substances Control Act and other statutes. Despite those limitations, the EPA could better assess and manage chemical risks by addressing challenges in data collection, toxicity screening and improving public access to chemical data. The GAO has also included the Integrated Risk Information System (IRIS) in its FY 2013 High Risk Report (GAO-13-283). In FY 2014, GAO completed a third review of the IRIS program.

Agency Response: The EPA agrees that statutory changes are needed to enable the agency to successfully meet its goal of ensuring chemical safety now and in the future. The agency has put forward a set of essential principles for reform of chemical management legislation that will modernize and strengthen the tools available in TSCA to increase confidence that chemicals used in commerce are safe (<http://www.epa.gov/oppt/existingchemicals/pubs/principles.html>).

However, until legislative reform takes place, the EPA has adopted and is following an Existing Chemicals Strategy, released in February 2012, which outlines a comprehensive approach for 1) prioritizing chemicals for risk assessment and risk reduction, 2) increasing the public's access to chemical data, and 3) advancing innovation for safer products and green chemistry. Integral to this approach are the key steps of identifying chemicals for assessment, collecting and making effective use of chemical data, and pursuing action to reduce risks posed by existing chemicals found to pose unreasonable risks to human health and the environment.

The EPA has taken a number of specific steps to strengthen its chemical safety work within existing authorities. Among the most significant are the following:

- Published an updated list of 90 TSCA Work Plan Chemicals for assessment under TSCA to help focus and direct the activities of the Existing Chemicals Program over the FY 2014-2018 Strategic Plan cycle. Significant progress has already been made—five assessments finalized, 12 more expected during FY 2016, and an additional 21 in FY 2017. In addition, the EPA has completed multiple risk management actions, including 133 final Significant New Use Rule for new chemicals and six proposed for existing chemicals since 2012. TSCA Section 6 regulatory actions are in progress for certain commercial and consumer uses of TCE and for the paint removers methylene chloride and n-methylpyrrolidone (NMP).
- EPA is filling information gaps on existing chemicals by taking a range of TSCA information gathering actions (including the Chemical Data Reporting Rule and test rules); expanding electronic reporting of Pre-Manufacture Notices (PMNs) and other submission under TSCA; improving public access to non-confidential chemical information via the

agency's online ChemView database; and by reviewing, and where appropriate, challenging: 1) new submissions under TSCA where Confidential Business Information is claimed in health and safety studies, and 2) all CBI cases submitted prior to August 2010. The ChemView database has almost 12,000 chemicals, including more than 640 declassified chemical health and safety studies.

Improving IRIS. In 2009, GAO identified the EPA's Integrated Risk Information System (IRIS) Program as a high risk area needing broad-based transformation to address issues of transparency, program management, and timeliness. The IRIS program currently remains on GAO's High Risk List.

The EPA's ability to protect public health and the environment depends on credible and timely assessments of the risks posed by toxic chemicals across the various programs. The EPA is implementing significant program enhancements, including formal intra-agency identification and priority setting of assessments, assessment streamlining, expanded stakeholder engagement, and strengthened peer review.

Due to the 2009 IRIS process change, comments received from the interagency reviews of draft IRIS assessments are now posted on the IRIS website and available for the public to view. From May 2009 (when the new IRIS process went into place) to September 2015, the National Center for Environmental Assessment (NCEA) completed 28 IRIS assessments. These completions include some of the agency's highest priorities such as trichloroethylene, tetrachloroethylene, and dioxin (noncancer). The most recent completions include biphenyl, 1, 4-dioxane, methanol (non-cancer), and Libby Amphibole Asbestos. NCEA also has made significant progress on several other high profile assessments such as formaldehyde, inorganic arsenic, chromium VI, benzo[a]pyrene. In addition, the EPA's IRIS Program is developing assessments of health effects for chemicals found in environmental mixtures such as polycyclic aromatic hydrocarbons (PAHs), phthalates, and polychlorinated biphenyls (PCBs). These cumulative assessments will increase the number of chemicals that are addressed by the IRIS Program.

The following enhancements and actions address many of GAO's concerns, including issues related to transparency and development of timely, credible assessments:

- Incorporated the public release of preliminary materials in the early stages of developing an assessment.
- Incorporated public meetings early in the assessment development process to identify available scientific information and any data gaps for the chemical being assessed.
- Increased the use of IRIS website to share information about assessment schedules and public meetings.
- Issued "stopping rules" to help ensure that IRIS assessments are not delayed by new research findings or ongoing debate of scientific issues after certain process points have passed.
- Strengthened peer review practices, including establishing a standing committee of the EPA's Science Advisory Board and the Chemical Assessment Advisory Committee, for reviewing IRIS assessments and evaluating conflicts of interests.

- Partnered with the National Academies' National Research Council (NRC) to sponsor an NRC review of the IRIS assessment development process and the changes being implemented or planned by the EPA.
- Increased the number of scientific workshops on critical issues in risk assessment.
- Delivered four reports to Congress, the last of which was submitted in November 2015, to update Congress, stakeholders, and the public on the status of the IRIS Program implementation of the most recent NRC recommendations.

In 2014, the EPA engaged the NRC to identify independent scientific experts (screened for conflicts of interest and bias) to participate in the discussions that occur at IRIS bimonthly public meetings. This was in direct response to concerns raised by the NRC in its 2014 report regarding uneven stakeholder participation during these meetings. These experts immediately began to broaden the range of perspectives represented at the IRIS bimonthly public meetings. For example, speaking on their own behalf, six such experts attended the February IRIS public science meeting on phthalates to contribute to the scientific discussions of issues amongst the EPA, stakeholders, and the public. This meeting was the first meeting where NRC-identified experts joined the EPA and the public to discuss key science questions and preliminary assessment materials.

Also in 2014, the EPA's regulatory program and regional offices were formally requested to identify their programmatic needs for IRIS assessments and the basis for the need. EPA gathered information and analyzed data to develop a coordinated and comprehensive 5-year workplan for IRIS Program activities and assessments, positioning the IRIS Program to be well-targeted to provide timely, state-of-the-art assessments in support of the EPA programs. In its 2015 report, GAO recognized this effort as addressing its recommendation that the EPA "have a clear strategy that formalizes intra-agency coordination and priority." The final workplan, which was renamed the IRIS multi-year agenda, was released in December 2015. The document includes changes in priorities for the existing 2012 agenda, incorporates input from EPA programs and regional offices, and identifies the top priority chemical assessments the IRIS Program will begin over the next few years.

The EPA will continue to rely on reviews conducted by respected and independent scientific bodies to confirm that the actions being implemented are effectively improving the IRIS program. Additional actions completed in FY 2015 or underway in FY 2016 include the following:

- Held a public workshop to discuss recommendations from the National Academies' National Research Council's May 2014 report on IRIS related to further improving the scientific quality of IRIS assessments. This workshop allowed the IRIS Program to obtain input from the public and scientific community about selected key topics related to the NRC's May 2014 recommendations.
- Held the Epigenetics and Cumulative Risk Assessment Workshop that explored the role that data on epigenetic changes may play in assessing cumulative risks in human populations exposed to multiple stressors. The workshop included discussion on the role of epigenetic changes in mediating environmental stressors and subsequent disease processes, as well as research needs for practical application of epigenetic measures to address cumulative risks from multiple environmental stressors.

- Held the Advancing Systematic Review Workshop that built upon two previously held systematic review workshops (August 2013 and October 2014) and included presentations and discussions by scientific experts in areas pertaining to systematic review. The workshop was structured to include an opportunity for comments, questions, and engagement from stakeholders and members of the public.
- Conducted a webinar on Model Averaging to obtain expert peer consultation on model averaging methods for dose-response analysis. To facilitate the workshop, EPA provided invited workshop consultants with background and support materials for consideration, including a document describing methods that are consistent with published recommendations and software that illustrated how those existing methods could be implemented.
- Held a workshop on Temporal Exposure Issues for Environmental Pollutants: Health Effects and Methodologies for Estimating Risk. The purpose of the workshop was to explore the state-of-the-science with respect to varying temporal exposures to environmental pollutants, the observed associations with health effects, and opportunities to utilize current or future scientific data.
- Updated sections of the IRIS Handbook that include procedures and protocols to be used to implement systematic reviews. The document will go through significant internal and external review.
- Continues to archive out-of-date pesticide assessments on the IRIS database. EPA anticipates that this effort will be completed in FY 2016.
- Continues to work on a process for updating IRIS assessments. A draft plan has been developed and is being reviewed internally.
- Continues to develop and apply enhancements that respond to recent reviews and evaluations of the IRIS Program. Enhancements will continue to be applied to individual assessments based on their state of development (i.e., the full suite of enhancements is being implemented only in those assessments in the beginning stage of development).
- Continues to provide increased monitoring and oversight of the IRIS Program through monthly meetings with senior management. Progress on milestones is assessed weekly by the IRIS Program Director and the IRIS Management Council. Further oversight is provided by the newly-formed internal executive review committee to ensure that scientific decisions are discussed by a greater number of senior scientists and managers within NCEA to maintain quality and consistency across assessments.

7. Improving Processes for Conditional Registration of Pesticides and Considering Children's Health

Summary of Challenge: The GAO highlights vulnerabilities in the Conditional Registration of Pesticides that could result in human health impacts. Vulnerabilities include inaccurate data and recordkeeping, insufficient tracking of conditional registrations, and limited management oversight to ensure that regulatory actions are not misclassified as conditional or unconditional registrations. The GAO also reports that the EPA has not taken the steps necessary to integrate children's health in the rulemaking process.

Agency Response: The agency is committed to providing a more integrated solution to track conditional registration data requirements and data submission for all pesticides. During 2014

and 2015, the EPA continued to create new codes in the Office of Pesticide Program Information Network (OPPIN) to more clearly distinguish the status of product registrations as conditional or unconditional (refining codes is an ongoing activity). In 2014 the agency's pesticide program held divisional training sessions to discuss the regulatory requirements of conditional registrations in RD, AD, and BPPD. The agency also developed draft standard operating procedures detailing how to enter data in the OPPIN tracking system for conditional and unconditional registrations.

In April 2014, the agency prepared and posted on its website a table showing all pesticide active ingredients initially registered under conditional registration (2000-2014). The EPA continues to use this table internally as a tool to track and manage the status of submission, review, and acceptance of information required as a condition of registration. The agency is preparing to release an updated version of the table.

The agency will continue to take actions to improve the review of conditional registration of pesticides. This includes conducting monthly meetings to help facilitate cross-divisional coordination, reviewing the status of data submission, developing and standardizing tracking codes, and training staff to support conditional registration activities.

8. Oversight of Delegations to States / Diminished Capacity of States to Implement Federal Environmental Programs

Summary of Challenge: While progress has been made, including a cross-agency strategy in its 2014-2018 Strategic Plan on a new era of partnerships, the EPA's oversight of state programs remains a management challenge. The OIG notes the agency's inadequate and inconsistent oversight of state program implementation across environmental statutes and the absence of national baselines. The GAO has concerns about the consequences of budget cuts and the ability of states to fulfill core program requirements.

Agency Response: The agency continues to improve its state oversight practices to ensure consistency, for example, by establishing the State Program Health and Integrity Workgroup. This inter-agency workgroup, composed of the EPA's national program offices for air, enforcement and water, gathers and analyzes information on oversight of state practices, identifies gaps and develops solutions.

Direct oversight of delegated and approved Clean Air Act (CAA) programs is the responsibility of each regional office, a role for which the national air program office provides support and assistance when necessary and appropriate. The distinction between approved and delegated programs is that the former develop their own rules, which must be consistent with enacted federal rules, whereas the latter do not develop their own rules, but rather implement the federal rules as written. For example, the national air program office works to assist in developing tools and guidance to reduce the SIP backlog, and emphasizes efforts to streamline the process with initiatives like the E-SIP program. The agency incorporates state oversight responsibilities into the Annual Commitment System suite of regional performance measures. In response to the 2014 OIG Evaluation of CAA Title V Emissions Fees, the EPA is developing a fee oversight strategy and guidance and updating other associated Title V oversight guidance documents. These documents will incorporate the principles and best practices developed by the cross-agency oversight workgroup to ensure appropriate national consistency.

Additional efforts the agency is undertaking to address OIG concerns include:

- Now that EPA's underground storage tank regulations are final, EPA will work with states to develop or modify MOAs to ensure adequate oversight and coordination of UST inspections. .
- Improve the Drinking Water State Revolving Fund data quality through increased engagement of the regions and state quarterly reports. These reports will focus on projects with missing data for key fields and up-to-date project data.
- Develop a usable format for sharing TRI data on discharges sent to POTWs. The agency also will develop materials to explain the utility of TRI data to NPDES permit writers and pretreatment program personnel.

The agency agrees that budget constraints jeopardize states' ability to fulfill core program requirements. The agency's strategy for assisting states in meeting their program requirements is focused on identifying programmatic areas of highest priority, reducing administrative burdens where possible, and providing additional time for required activities where allowed while still meeting the intent of all regulatory mandates. To reduce states' administrative burdens and increase efficiencies, the agency has introduced a number of cost-effective, streamlined administrative processes, such as reforming the State Implementation Plan (SIP) process. The regions, with headquarters' oversight, work closely with states in managing STAG resources provided by Congress. The EPA revises requirements where possible to make the best use of available technology and resources to address the most critical air quality issues, such as delaying the deployment of the near-road monitoring network and activating and encouraging use of electronic emissions reporting for sources. The agency meets regularly with representatives of state and local air agencies to identify and resolve issues; routinely suggests budget changes to address funding, programmatic and technology gaps; and solicits state, local and tribal government input in developing the annual national program managers' guidance.

9. Improving EPA's Adherence to Guidance for Regulatory Impact Analysis

***Summary of Challenge:** GAO believes the EPA did not always adhere to certain aspects of OMB's Circular A-4 guidance for analyzing the economic effects of regulations in its Regulatory Impact Analysis (RIA). According to GAO, the EPA considered regulatory alternatives and analyzed uncertainties underlying the RIAs, but the information it included and presented in the RIAs was not always clear. GAO stated that the EPA's review process also does not ensure that the information that should appear in the analyses is transparent or clear, within and across its RIAs, so the agency cannot ensure that its RIAs adhere to OMB's guidance to provide the public with a clear understanding of its decision making. Additionally, GAO states that the EPA did not monetize certain benefits and costs related to the primary purposes or key impacts of the rules GAO reviewed, such as reducing hazardous air pollutants and water quality effects. GAO concluded that this potentially limits the RIAs' usefulness for helping decision makers and the public understand these important effects.*

Agency Response: The EPA's view is that the GAO's findings do not point to systematic deficiencies with respect to the accuracy of the agency's analytical work. The seven rules that GAO reviewed are a small subset of the rules for which the EPA has conducted RIAs in recent

years. The role of the RIA is to inform, as appropriate, the development of regulatory standards by providing decision makers with the ability to systematically assess the consequences of various actions through sound science in accordance with the requirements of Executive Orders 12866 and 13563 and the guidelines of OMB Circular A-4. The EPA relies on the best available information to calculate both the costs and benefits of rules and further refines these analyses through the interagency and public comment processes. In addition, the EPA maintains a public docket where all of the underlying documentation for each RIA is available.

The EPA agrees that there are challenges to fully monetizing all of the public health and environmental benefits of regulations, including some potentially important effects; however, this is an issue inherent in benefit-cost analysis and is not unique to regulatory actions undertaken by this agency. In the RIAs prepared by the EPA, significant effort is put into clearly and transparently communicating about benefit categories for which the EPA is unable to monetize benefits. In cases where there may be a benefit with impacts that are expected to be significant but cannot be monetized using available science and economics, or where quantifiable effects are expected to be small relative to other benefits, a qualitative assessment may be appropriate. In such cases, qualitative analyses provide the best available information to communicate to the public. Including both quantitative and qualitative assessments is an approach that is consistent with the flexibility provided to agencies in OMB Circular A-4, which calls for balancing thoroughness, analytical capacity, and resource limitations. Each RIA, whether quantitative or qualitative, is based on the most reliable information available at the time. The EPA continues to work to refine these analyses over time, and actively seeks outside expert advice for reviews of significant new scientific information and analytical methodologies.

The agency continually strives to improve its ability to value the benefits and costs of its regulatory actions and is working on several critical areas of economic valuations. These include:

- Soliciting grant proposals under the Science to Achieve Results (STAR) Program to support water quality benefits.
- Developing a water quality modeling system, Hydrological and Water Quality System, capable of supporting national and regional level economic and policy analyses.
- Utilizing the human health benefits workgroup to support improvements in the agency's ability to quantify important benefits for hazardous chemicals such as lead, formaldehyde and chlorinated solvents.

The EPA will continue to invest in areas that will support improvement in our ability to value important benefits and costs and apply scientifically reliable, monetized estimates of effects in our rulemaking analyses.

10. Enhancing Information Technology Security to Combat Cyber Threats

Summary of Challenge: According to the OIG, the EPA's information security challenges stem from four key areas: 1) risk management planning, 2) security information and event management tool implementation, 3) computer security incident response capability and network operation integration, and 4) computer security incident response capability relationship building. The OIG believes that management oversight underlies all four areas and is needed to ensure

comprehensive implementation of the information security program throughout the agency, including offices' execution of the EPA policies, procedures, and practices.

Agency Response: The EPA acknowledges that advance persistent threats continue to pose a significant challenge for all federal agencies and has taken steps to ensure its information technology and cyber security practices are fully integrated throughout the agency. The following summarizes the agency's progress in addressing growing concerns identified by OIG:

- **Establishing methods to control network access and evaluate inactive accounts.** The agency is establishing methods to ensure all accounts are proactively managed, beginning with inactive accounts and accounts with elevated privileges. This approach will enhance existing process that will include new repeatable processes to manage, correct and report on all accounts. Additionally, the agency is conducting an inventory of all accounts with the objective of consolidating the refining and standardizing processes for assigning and removing inactive accounts to include all privileged user accounts. The intent is to minimize the potential impact to systems and or applications(s) hosted in the agency's network environment. Additionally, the agency is working to improve the integration of personnel actions (hiring, transfer, termination, etc) with account management.
- **Strengthening internal control processes for monitoring and completing corrective actions for agreed-to audit recommendations.** The agency recognizes the importance of ensuring that corrective actions in response to OIG recommendations are completed in a timely manner and tracked through the agency's tracking systems (MATS and OATS). The agency continues to refine established procedures for communicating, disseminating and resolving corrective actions to improve its audit follow-up practices.
- **Developing a vulnerability remediation.** The agency recognizes that vulnerabilities pose significant risk to the agency and understands the importance of remediating those vulnerabilities in a timely manner. The agency's strategy is to provide security practitioners the necessary guidance, tools and oversight to address vulnerabilities effectively and in a time frame consistent with the associated risk impacts. In the third quarter of FY 2015, the agency initiated a review of the vulnerability management processes. The recommendations from the review are being used to develop a vulnerability management CONOPS that will strengthen the agency's processes and procedures in remediating weaknesses.
- **Implementing the drafted training requirements for the roles with the biggest impact on information.** The agency recognizes the importance of security personnel in the overall protection of information assets. The agency's approach is to develop a comprehensive training program that defines skills and training requirements that correlates with the various information security roles. The training program will utilize the agency's internal and external training resources. In the first quarter of FY 2015, the agency initiated a Task Force to make information security program improvement recommendations. The Task Force's recommendations for implementing the draft training framework were approved and are being implemented. For each defined security position the agency will provide role-based training that employees must obtain or maintain to keep their positions.

- **Developing and implementing processes for management oversight of audit follow-up.** The EPA agrees with the OIG's assessment and continues to streamline audit follow-up management for cyber security and other deficiencies to provide adequate monitoring. The agency will make every effort to complete corrective actions for all open recommendations by the originally agreed-upon completion dates, where feasible, by utilizing and refining processes already in place. The EPA will improve access to supporting documentation and ensure the data are properly and accurately recorded in MATS and corrective actions taken actually address and correct the deficiency.

11. EPA Needs to Improve Its Workload Analysis to Accomplish Its Mission Efficiently and Effectively

Summary of Challenge: The OIG has raised concerns about overall agency and specific program workforce and workload planning: specifically, that the agency does a poor job of estimating how many full-time employees are needed to complete particular tasks (workforce planning) and what skills, people and/or organizations are needed to complete the tasks (workload planning). The OIG asserts the EPA has not collected the data nor developed the analytical methods to measure workload and workforce needs. The OIG recommends the EPA strengthen its workforce and workload controls, policies, procedures and methods.

Agency Response: The EPA agrees on the importance of analyzing and understanding workload; however, the focus should be on understanding how critical functions are actually performed rather than using workload models to try to calculate hypothetical or ideal FTE levels. EPA does not believe that using similar federal government workload models would accurately capture EPA functions, provide actionable results, or be a wise investment of scarce resources. Detailed workload models require substantial investments of time and resources, and many EPA functions are highly variable and non-linear.

The EPA has found that the highest return from workload analysis comes when the agency uses it to better understand what employees actually do to fulfill certain functions. What are the major tasks that take the most time, why do they take that much time, and what do they see as major barriers and opportunities? The EPA plans to continue to use workload analysis to investigate major, replicable processes to help managers plan as well as prioritize processes and procedures and target streamlining and Lean efforts.

Each year during the budget formulation process, the EPA must carefully weigh how to fund areas of increased priority, workload and need. In recent years, the EPA has had to look at how to provide extra resources for developing needed air rules and meeting the increased need for legal expertise to manage twice as many outside lawsuits and provide counsel to program offices to help craft more legally defensible agency actions. Conversely, the agency also must continually look for reductions elsewhere. In almost all of these cases there are no precise models that provide an answer on how much is needed, and the agency must work within the limits of its budget.

The EPA continues to focus analyses on process-oriented functions (such as permits, grants, funds control or IT security) primarily to better understand workflows, processes and procedures and identify the most time-consuming tasks, duplication, procedural roadblocks, management

challenges and streamlining opportunities. Functions that cut across programmatic lines of business have been another area of focus. To engage program officials, a critical step is to make clear that the exercise is not designed to re-allocate resources or develop hypothetical total workforce needs, but rather is aimed at better understanding what needs to be done to fulfill a particular function. The EPA will continue to use the lessons learned from its survey of 1,000+ frontline managers, benchmarking of 23 other agencies' efforts, and reviews of water and air permitting, grants, and IT security.

The EPA is working with OMB and OIG to update its Funds Control Manual. The new Manual is expected to include a workload analysis section with guidance on how offices can use it to better understand their programs' operations and plan future Lean and other streamlining efforts. Additionally, the agency used workload analysis to streamline project officers' grant oversight assignments and to restructure its IT security program.

12. Improved Oversight of Time and Attendance, Computer Usage and Real Property Management

***Summary of Challenge:** Recent events and activities indicate a possible "culture of complacency" among some supervisors at the EPA regarding time and attendance controls, employee computer usage, and real property management. As stewards of taxpayer dollars, EPA managers must emphasize and reemphasize the importance of compliance and ethical conduct throughout the agency and ensure it is embraced at every level of the organization.*

Agency Response: The agency believes that enhancements and improved internal controls implemented over the past fiscal year address concerns raised by OIG. Since FY 2013, the EPA has made considerable efforts to strengthen internal controls over time and attendance reporting and employee travel. The agency revised its T&A procedure, enhancing leadership, attention and support to ensure that employees report, review, correct and attest to the accuracy of their time promptly in the agency's payroll system, PeoplePlus. During the past three years, the EPA has audited 100 percent of its travel vouchers prior to payment to confirm all expenses over \$75 are verified by a receipt and expenses are consistent with regulations and policy.

To address the time and attendance concerns, the agency enhanced its payroll system, PeoplePlus, with new controls. The system now:

- Generates automatic system reminders for employees, managers and supervisors to submit and approve time cards on time.
- No longer supports an "approve all" feature for managers, forcing them to review every employee's T&A individually.
- Automatically monitors and requires documentation when an employee's time is entered and/or approved by alternates for three or more pay periods per quarter.
- Verifies that employees enter their time correctly, timekeepers sign off, and supervisors certify.
- No longer allows default pay and mass approval, ensuring that only employees who are in a legitimate pay status receive their pay.
- Includes a leave management feature that allows employees and supervisors to better manage leave requests.

To address employee travel, the agency:

- Created a new framework for approval of executive travel and payroll.
- Created new controls for high-dollar high-risk travel and above-per-diem lodging.
- Strengthened travel-related policies on premium class travel areas, including the 14-hour rule, “mission critical” travel, and travel made with reasonable accommodations considerations.
- Developed a checklist, located on the EPA’s intranet, to guide travel approvers.
- Implemented a new travel system, Concur, which applies the new controls and policies alongside the new system, and offered associated training.

Regarding real property management, specifically concerns over the management and oversight of property in the EPA’s headquarters’ main warehouse in Landover, Maryland, the agency has issued and amended various policy guidance. This includes:

- Revised standard operating procedures, including tracking, for warehouse operations and property management.
- Developed and implemented a security plan that covers surveillance and CCTV footage retention.
- Discontinued document shredding services to reduce document susceptibility to fraud and abuse.
- Awarded new warehousing/labor services contract.
- Continue regular site visits by senior management to ensure internal controls are effective and in compliance with operating policies and procedures, and implemented on-site federal management.
- Reduced warehouse space by 40 percent.

EPA USER FEE PROGRAM

In FY 2017, the EPA will have several user fee programs in operation. These user fee programs and proposals are as follows below:

Current Fees: Pesticides

Fees authorized by the Federal Insecticide, Fungicide, and Rodenticide Act of 1988, as amended by Public Law 112-177, will expire on September 30, 2017.

- **Pesticides Maintenance Fee**

The Maintenance Fee provides funding for the Reregistration and Registration Review programs and a certain percentage supports the processing of applications involving inert ingredients and expedited processing of similar applications, such as fast track amendments. In FY 2017, the EPA expects to collect approximately \$27.8 million from this fee program.

- **Enhanced Registration Services**

Entities seeking to register pesticides for use in the United States pay a fee at the time the registration action request is submitted to the EPA specifically for the accelerated pesticide registration decision service. This process has introduced new pesticides to the market more quickly. In FY 2017, the EPA expects to collect approximately \$15 million from this fee program.

Current Fees: Other

- **Pre-Manufacturing Notification Fee**

The Pre-Manufacturing Notification (PMN) fee is collected for the review and processing of new chemical pre-manufacturing notifications submitted to the EPA by the chemical industry. These fees are paid at the time of submission of the PMN for review by the EPA's Toxic Substances program. PMN fees are authorized by the Toxic Substances Control Act and contain a cap on the amount the agency may charge for a PMN review. Fees collected for this activity are deposited in the U.S. Treasury. The EPA estimates that \$1.1 million will be deposited in FY 2017.

- **Lead Accreditation and Certification Fee**

The Toxic Substances Control Act, Title IV, Section 402(a)(3), mandates the development of a schedule of fees to cover the costs of administering and enforcing the standards and regulations for persons operating lead training programs accredited under the Section 402/404 rule and for lead-based paint contractors certified under this rule. The training programs ensure that lead paint abatement and renovation professionals are properly trained and certified. Fees collected for this activity are deposited in the U.S. Treasury. The EPA estimates that \$4.6 million will be deposited in FY 2017, reflecting the lower-than-expected rate of firms observed to be recertifying under the Renovation, Repair, and Painting rule.

- **Motor Vehicle and Engine Compliance Program Fee**

This fee is authorized by the Clean Air Act of 1990 and is administered by the Air and Radiation Program. Fee collections began in August 1992. Initially, this fee was imposed on manufacturers of light-duty vehicles, light- and heavy-duty trucks, and motorcycles. The fees cover the EPA's cost of certifying new engines and vehicles and monitoring compliance of in-use engines and vehicles. In 2004, the EPA promulgated a rule that updated existing fees and established fees for newly-regulated vehicles and engines. The fees established for new compliance programs also are paid by manufacturers of heavy-duty and non-road vehicles and engines, including large diesel and gas equipment (earthmovers, tractors, forklifts, compressors, etc.), handheld and non-handheld utility engines (chainsaws, weed-whackers, leaf-blowers, lawnmowers, tillers, etc.), marine (boat motors, watercraft, jet-skis), locomotive, aircraft and recreational vehicles (off-road motorcycles, all-terrain vehicles, snowmobiles) for in-use testing and certification. In 2009, the EPA added fees for evaporative emissions requirements for non-road engines. The EPA intends to apply certification fees to additional industry sectors as new programs are developed. In FY 2017, the EPA expects to collect approximately \$22.2 million from this fee program based upon a projection of the original rulemaking cost study adjusted for inflation.

Fee Proposals: Other

- **Pre-Manufacturing Notification Fee: Revisions**

Under the current fee structure established in the Toxic Substances Control Act of 1976 (TSCA), the agency is expected to collect around \$1.1 million in FY 2017. Legislative language will be submitted to Congress, shortly after the submission of the FY 2017 President's Budget, which proposes to remove the statutory cap in the TSCA on Pre-Manufacturing Notification (PMN) Fees to collect an additional \$8 million annually by FY 2018 (raising the total collected in FY 2017 to \$9.1 million – approximately 40 percent of the cost of administering the New Chemicals Program). Fees collected for this activity are deposited in the U.S. Treasury.

- **TSCA Confidential Business Information Management Fee Revolving Fund**

The Toxic Substances Control Act of 1976 (TSCA) provides the EPA with the authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Information directed to the EPA through TSCA may be claimed under TSCA Section 14(a) as confidential business information (CBI). The EPA incurs direct costs to manage TSCA CBI. These costs relate to the management and maintenance of a headquarters CBI repository (Confidential Business Information Center), separate division and regional office repositories, a stand-alone secure e-communications system and database structure (CBI LAN), a CBI procedural protection program, physical security (Secure Storage Areas), and CBI reviews and sanitizations.

The EPA presently does not have the authority to directly recoup these costs from all submitters of TSCA CBI information. Legislative language will be submitted to Congress shortly after the submission of the FY 2017 President's Budget, which will allow the agency to charge fees from TSCA CBI submitters to defray a portion of the EPA's administrative costs to manage CBI

documents received under all sections of TSCA, and to establish in the Treasury of the United States a revolving fund, to be known as the ‘Toxic Substances Control Act Confidential Business Information Management Fund,’ into which CBI Fee collections would be deposited for the agency’s use in managing TSCA CBI data and without fiscal year limitation and without further appropriation. Upon amendment to TSCA Section 26, the EPA would charge fees to defray approximately 40 percent yearly (or between \$6 million and \$8 million) of the direct costs of running this program.

- **FIFRA Fee Spending Restrictions**

Current statutory language places restrictions on the amount and timing of fees that can be spent within the context of a single fiscal year. Legislative language will be submitted to Congress, shortly after the submission of the FY 2017 President’s Budget, which proposes to remove this prohibition and allow the EPA the required flexibility to more effectively use fee resources.

- **Hazardous Waste Electronic Manifest**

On October 5, 2012, the President signed the Hazardous Waste Electronic Manifest Establishment Act (Public Law 112-195). The Act provided for the electronic submission of hazardous waste manifests to the EPA and established a mechanism for financing the development and operation of the program through user fees. The Resource Conservation and Recovery Act (RCRA) requires hazardous waste handlers to document information on the waste's generator, destination, quantity, and route. The current tracking system relies upon paper manifests. An electronic manifest (e-Manifest) system will increase transparency and public safety, making information on hazardous waste movement more accessible to the EPA, states, and the public. Fees will be implemented once the system is operational. In addition, the EPA will complete the final User Fee rule, which will be published approximately 90 days before national system deployment (anticipated in FY 2018).

- **WIFIA Program Fees**

The FY 2017 Budget requests authorization for the Administrator to collect and obligate fees established in accordance with title V, subtitle C, sections 5029 and 5030, of Public Law 113-121, the Water Resources Reform and Development Act of 2014. These funds will be credited as offsetting collections for administrative costs in the Water Infrastructure Finance and Innovation Program Account. Fee provisions will be established once the loan program is underway.

WORKING CAPITAL FUND

In FY 2017, the agency will be in its twenty-first year of operation of the Working Capital Fund (WCF). It is a revolving fund, authorized by law to finance a cycle of operations, where the costs of goods and services provided are charged to users on a fee-for-service basis. The funds received are available without fiscal year limitation, to continue operations and to replace capital equipment. The EPA's WCF was implemented under the authority of Section 403 of the Government Management Reform Act of 1994 and the EPA's FY 1997 Appropriations Act. Permanent WCF authority was contained in the agency's FY 1998 Appropriations Act.

The Chief Financial Officer (CFO) initiated the WCF in FY 1997 as part of an effort to: (1) be accountable to agency offices, the Office of Management and Budget, and Congress; (2) increase the efficiency of the administrative services provided to program offices; and (3) increase customer service and responsiveness. The agency has a WCF board which provides policy and planning oversight and advises the CFO regarding the WCF financial position. The Board, chaired by the Associate Chief Financial Officer, is composed of twenty-three permanent members from the program and regional offices.

In FY 2017, there will be ten agency activities provided under the WCF. These are the agency's information technology and telecommunications operations; data services; agency postage costs; background investigations; Cincinnati voice services; the agency's core financial and administrative systems; employee relocation services; budget formulation system; certain minor facilities alterations costing less than \$150,000 per project; and the agency's continuity of operations site.

The agency's FY 2017 budget request includes resources for these ten activities in each National Program Manager's submission, totaling approximately \$250 million. These estimated resources may be increased to incorporate program office's additional service needs during the operating year. To the extent that these increases are subject to Congressional reprogramming notifications, the agency will comply with all applicable requirements. In FY 2017, the agency will continue to market its information technology and relocation services to other federal agencies in an effort to deliver high quality services external to the EPA, which will result in lower costs to EPA customers.

In FY 2017, there are funding increases for several IT improvements. A total of \$8.1 million has been added to the WCF for network switches, Microsoft license upgrades, bandwidth enhancements, and help desk support. These funds are housed in the Facilities Infrastructure and Operations and the IT/Data Management program.

Other funding increases and shifts have been included in the FY 2017 WCF plan that relate to the necessary telecommunications and computer support needed by every employee. The base costs for this package of services has increased over the last three years, and funding has been revised to incorporate these changes, which includes recent increases in cybersecurity investments. As part of an overall review and rebalancing of these costs, funds have been shifted across program projects to reflect FTE changes as well.

There also is a shift in the background investigations service that reflects the agency's decision to move the overhead for this function to be managed in the WCF with other centralized services. In FY 2016, these resources were distributed to the regional and program offices when the agency

had planned on de-centralizing the funding structure for the background investigation program. For FY 2017, this funding will be moved back to OARM to centralize the overhead costs within the office providing the service for better management of the resources.

Environmental Protection Agency
ACRONYMS for STATUTORY AUTHORITY

ADA: Americans with Disabilities Act

ADEA: Age Discrimination in Employment Act

AEA: Atomic Energy Act, as amended, and Reorganization Plan #3

AHERA: Asbestos Hazard Emergency Response Act

AHPA: Archaeological and Historic Preservation Act

APA: Administrative Procedures Act

ARRA: American Recovery and Reinvestment Act

ASHAA: Asbestos in Schools Hazard Abatement Act

ASTCA: Antarctic Science, Tourism, and Conservation Act

BEACH Act of 2000: Beaches Environmental Assessment and Coastal Health Act

BRERA: Brownfields Revitalization and Environmental Restoration Act

CAA: Clean Air Act

CAAA: Clean Air Act Amendments

CAIR: Clean Air Interstate Rule

CCA: Clinger Cohen Act

CCAA: Canadian Clean Air Act

CEPA: Canadian Environmental Protection Act

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act (1980)

CFOA: Chief Financial Officers Act

CFR: Code of Federal Regulations

CICA: Competition in Contracting Act

CRA: Civil Rights Act

CSA: Computer Security Act

CWA: Clean Water Act (1972)

CWAP: Clean Water Action Plan

CWPPR: Coastal Wetlands Planning, Protection, and Restoration Act of 1990

CWSRF: Clean Water State Revolving Fund

CZARA: Coastal Zone Management Act Reauthorization Amendments

CZMA: Coastal Zone Management Act

DPA: Deepwater Ports Act

DREAA: Disaster Relief and Emergency Assistance Act

DWSRF: Drinking Water State Revolving Fund

ECRA: Economic Cleanup Responsibility Act

EFOIA: Electronic Freedom of Information Act

EISA: **Energy Independence and Security Act of 2007**

EPAct: Energy Policy Act of 2005

EPAA: Environmental Programs Assistance Act

EPAAR: Environmental Protection Agency Acquisition Regulation

EPCA: Energy Policy and Conservation Act

EPCRA: Emergency Planning and Community Right to Know Act (1986)

ERD&DAA: Environmental Research, Development and Demonstration Authorization Act

ESA: Endangered Species Act

ESECA: Energy Supply and Environmental Coordination Act

FACA: Federal Advisory Committee Act

FAIR: Federal Activities Inventory Reform Act

FASA: Federal Acquisition Streamlining Act (1994)

FCMA: Fishery Conservation and Management Act

FEPCA: Federal Environmental Pesticide Control Act; enacted as amendments to FIFRA.

FFDCA: Federal Food, Drug, and Cosmetic Act

FGCAA: Federal Grant and Cooperative Agreement Act

FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act (1972)

FLPMA: Federal Land Policy and Management Act

FMFIA: Federal Managers' Financial Integrity Act (1982)

FOIA: Freedom of Information Act

FPA: Federal Pesticide Act

FPAS: Federal Property and Administration Services Act

FPPA: Federal Pollution Prevention Act

FPR: Federal Procurement Regulation

FQPA: Food Quality Protection Act (1996)

FRA: Federal Register Act

FSA: Food Security Act

FSMA: Food Safety Modernization Act

FTTA: Federal Technology Transfer Act

FUA: Fuel Use Act

FWCA: Fish and Wildlife Coordination Act

FWPCA: Federal Water Pollution and Control Act (aka CWA)

GISRA: Government Information Security Reform Act

GMRA: Government Management Reform Act

GPRA: Government Performance and Results Act (1993)

HMTA: Hazardous Materials Transportation Act

HSWA: Hazardous and Solid Waste Amendments of 1984

IGA: Inspector General Act

IPA: Intergovernmental Personnel Act

IPIA: Improper Payments Information Act

ISTEA: Intermodal Surface Transportation Efficiency Act

ITMRA: Information Technology Management Reform Act of 1995-aka Clinger/Cohen Act

LPA-US/MX-BR: 1983 La Paz Agreement on US/Mexico Border Region

MPPRCA: Marine Plastic Pollution, Research and Control Act of 1987

MPRSA: Marine Protection Research and Sanctuaries Act

NAAEC: North American Agreement on Environmental Cooperation

NAAQS: National Ambient Air Quality Standard

NAWCA: North American Wetlands Conservation Act

NEPA: National Environmental Policy Act

NHPA: National Historic Preservation Act

NIPDWR: National Interim Primary Drinking Water Regulations

NISA: National Invasive Species Act of 1996

ODA: Ocean Dumping Act

OMTR: Open Market Trading Rule

OPA: Oil Pollution Act of 1990

OWBPA: Older Workers Benefit Protection Act

PBA: Public Building Act

PFCRA: Program Fraud Civil Remedies Act

PHSA: Public Health Service Act

PLIRRA: Pollution Liability Insurance and Risk Retention Act

PR: Privacy Act

PRA: Paperwork Reduction Act

PRIA: Pesticide Registration Improvement Act

PRIEA: Pesticide Registration Improvement Extension Act of 2012 (known as PRIA 3)

PRIRA: Pesticide Registration Improvement Renewal Act

QCA: Quiet Communities Act

RCRA: Resource Conservation and Recovery Act of 1976

RFA: Regulatory Flexibility Act

RICO: Racketeer Influenced and Corrupt Organizations Act

RLBPHRA: Residential Lead-Based Paint Hazard Reduction Act

SARA: Superfund Amendments and Reauthorization Act of 1986

SBLRBREERA: Small Business Liability Relief and Brownfields Revitalization and Environmental Restoration Act

SBREFA: Small Business Regulatory Enforcement Fairness Act of 1996

SDWA: Safe Drinking Water Act

SICEA: Steel Industry Compliance Extension Act

SMCRA: Surface Mining Control and Reclamation Act

SPA: Shore Protection Act of 1988

SWDA: Solid Waste Disposal Act

SWTR: Surface Water Treatment Rule

TCA: Tribal Cooperative Agreement

TSCA: Toxic Substances Control Act

UMRA: Unfunded Mandates Reform Act

UMTRLWA: Uranium Mill Tailings Radiation Land Withdrawal Act

USC: United States Code

USTCA: Underground Storage Tank Compliance Act

WQA: Water Quality Act of 1987

WRDA: Water Resources Development Act

WSRA: Wild and Scenic Rivers Act

WWWQA: Wet Weather Water Quality Act of 2000

FY 2017 STAG CATEGORICAL PROGRAM GRANTS

**Statutory Authority and Eligible Uses
(Dollars in Thousands)**

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2017 Goal/ Objective	FY 2015 Actuals Dollars (X1000)	FY 2015 Enacted Dollars ¹⁷ (X1000)	FY 2016 Enacted Dollars ¹⁷ (X1000)	FY 2017 President's Request (X1000)
State and Local Air Quality Management	CAA, Section 103	Air pollution control agencies as defined in section 302(b) of the CAA	S/L monitoring and data collection activities in support of the PM _{2.5} monitoring network and associated program costs.	Goal 1, Obj. 2	\$40,428.0	\$41,875.0	\$41,875.0	\$38,250.0
State and Local Air Quality Management	CAA, Section 103	Air pollution control agencies as defined in section 302(b) of the CAA	S/L monitoring and data collection activities in support of air toxics monitoring.	Goal 1, Obj. 2	\$10,387.0	\$8,959.0	\$8,959.0	\$8,759.0
State and Local Air Quality Management	CAA, Section 103	Air pollution control agencies as defined in section 302(b) of the CAA	S/L monitoring procurement activities in support of the NAAQS.	Goal 1, Obj. 2	\$3,971.0	\$3,971.0	\$3,971.0	\$3,971.0

¹⁷ The FY 2015 and FY 2016 enacted levels do not reflect STAG rescissions.

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2017 Goal/ Objective	FY 2015 Actuals Dollars (X1000)	FY 2015 Enacted Dollars ¹⁷ (X1000)	FY 2016 Enacted Dollars ¹⁷ (X1000)	FY 2017 President's Request (X1000)
State and Local Air Quality Management	CAA, Sections 103, 105, 106	Air pollution control agencies as defined in section 302(b) of the CAA; Multi-jurisdictional organizations (non-profit organizations whose boards of directors or membership is made up of CAA section 302(b) agency officers and whose mission is to support the continuing environmental programs of the States); Interstate air quality control region designated pursuant to section 107 of the CAA or of implementing section 176A, or section 184 NOTE: only the Ozone Transport Commission is eligible.	Carrying out the traditional prevention and control programs required by the CAA and associated program support costs, including monitoring activities (Section 105); Coordinating or facilitating a multi-jurisdictional approach to carrying out the traditional prevention and control programs required by the CAA (Sections 103 and 106); Supporting training for CAA Section 302(b) air pollution control agency staff (Sections 103 and 105); Supporting research, investigative, and demonstration projects (Section 103).	Goal 1, Obj. 2	\$175,735.0	\$172,814.0	\$172,814.0	\$191,649.0
				Goal 1, Obj. 1	\$0.0	\$0.0	\$0.0	\$17,500.0
					\$600.0	\$600.0	\$600.0	\$600.0
					Section 106 grants	Section 106 grants	Section 106 grants	Section 106 grants
				Total:	\$231,121.0	\$228,219.0	\$228,219.0	\$268,229.0

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2017 Goal/ Objective	FY 2015 Actuals Dollars (X1000)	FY 2015 Enacted Dollars ¹⁷ (X1000)	FY 2016 Enacted Dollars ¹⁷ (X1000)	FY 2017 President's Request (X1000)
Tribal Air Quality Management	CAA, Sections 103 and 105; Tribal Cooperative Agreements (TCA) in annual Appropriations Acts.	Tribes; Intertribal Consortia; State/Tribal College or University	Conducting air quality assessment activities to determine a Tribe's need to develop a CAA program; Carrying out the traditional prevention and control programs required by the CAA and associated program costs; Supporting CAA training for Federally-recognized Tribes.	Goal 1, Obj. 2	\$9,611.0 Section 103 grants \$4,000.0 Section 105 grants Total: \$13,611.0	\$8,829.0 Section 103 grants \$4,000.0 Section 105 grants Total: \$12,829.0	\$8,829.0 Section 103 grants \$4,000.0 Section 105 grants Total: \$12,829.0	\$8,829.0 Section 103 grants \$4,000.0 Section 105 grants Total: \$12,829.0
Radon	TSCA, Sections 10 and 306	State Agencies, Tribes, Intertribal Consortia	Assist in the development and implementation of programs for the assessment and mitigation of radon.	Goal 1, Obj. 2	\$8,267.0	\$8,051.0	\$8,051.0	\$0.0
Multipurpose Grants	P-L. 114-113	State Agencies, Tribes	Implementation of environmental programs and projects that complement existing environmental program grants.	Goal 1, Obj. 2	\$0.0	\$0.0	\$21,000.0	\$0.0

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2017 Goal/ Objective	FY 2015 Actuals Dollars (X1000)	FY 2015 Enacted Dollars ¹⁷ (X1000)	FY 2016 Enacted Dollars ¹⁷ (X1000)	FY 2017 President's Request (X1000)
Water Pollution Control (Section 106)	FWPCA, as amended, Section 106; TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia, Interstate Agencies	Develop and carry out surface and ground water pollution control programs, including NPDES permits, TMDLs, WQ standards, monitoring, and NPS control activities.	Goal 2, Obj. 2	\$229,531.0	\$230,806.0	\$230,806.0	\$246,164.0
Nonpoint Source (NPS – Section 319)	FWPCA, as amended, Section 319(h); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	Implement EPA-approved State and Tribal nonpoint source management programs and fund priority projects as selected by the state.	Goal 2, Obj. 2	\$165,686.0	\$159,252.0	\$164,915.0	\$164,915.0
Wetlands Program Development	FWPCA, as amended, Section 104 (b)(3); TCA in annual Appropriations Acts.	States, Local Governments, Tribes, Interstate Organizations, Intertribal Consortia, Non-Profit Organizations	To develop new wetland programs or enhance existing programs for the protection, management, and restoration of wetland resources.	Goal 2, Obj. 2	\$16,713.0	\$14,661.0	\$14,661.0	\$17,661.0

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2017 Goal/ Objective	FY 2015 Actuals Dollars (X1000)	FY 2015 Enacted Dollars ¹⁷ (X1000)	FY 2016 Enacted Dollars ¹⁷ (X1000)	FY 2017 President's Request (X1000)
Public Water System Supervision (PWSS)	SDWA, Section 1443(a); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	Assistance to implement and enforce National Primary Drinking Water Regulations to ensure the safety of the Nation's drinking water resources and to protect public health.	Goal 2, Obj. 1	\$102,021.0	\$101,963.0	\$101,963.0	\$109,700.0
Underground Injection Control (UIC)	SDWA, Section 1443(b); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	Implement and enforce regulations that protect underground sources of drinking water by controlling Class I-V underground injection wells.	Goal 2, Obj. 1	\$11,131.0	\$10,506.0	\$10,506.0	\$10,506.0
Beaches Protection	BEACH Act of 2000; TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia, Local Governments	Develop and implement programs for monitoring and notification of conditions for coastal recreation waters adjacent to beaches or similar points of access that are used by the public.	Goal 2, Obj. 1	\$9,868.0	\$9,549.0	\$9,549.0	\$0.0

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2017 Goal/ Objective	FY 2015 Actuals Dollars (X1000)	FY 2015 Enacted Dollars ¹⁷ (X1000)	FY 2016 Enacted Dollars ¹⁷ (X1000)	FY 2017 President's Request (X1000)
Hazardous Waste Financial Assistance	RCRA, Section 3011; FY 1999 Appropriations Act (PL 105-276); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	Development & Implementation of Hazardous Waste Programs	Goal 3, Obj. 2	\$70,633.0	\$69,877.0	\$69,877.0	\$69,874.0
				Goal 3, Obj. 3	\$30,679.0	\$29,816.0	\$29,816.0	\$29,819.0
				Total	\$101,312.0	\$99,693.0	\$99,693.0	\$99,693.0

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2017 Goal/ Objective	FY 2015 Actuals Dollars (X1000)	FY 2015 Enacted Dollars ¹⁷ (X1000)	FY 2016 Enacted Dollars ¹⁷ (X1000)	FY 2017 President's Request (X1000)
Brownfields	CERCLA, as amended by the Small Business Liability Relief and Brownfields Revitalization Act, Section 128(a) (42 U.S.C. 9628); GMRA (1990)a; FGCAA.	States, Tribes, Intertribal Consortia	Establish and enhance state and tribal response programs which will timely survey and inventory brownfields sites; develop oversight and enforcement authorities to ensure response actions are protective of human health and the environment; develop ways for communities to provide meaningful opportunities for public participation; and develop mechanisms for approval of a cleanup plan and verification and certification that cleanup is complete.	Goal 3, Obj. 1	\$48,203.0	\$47,745.0	\$47,745.0	\$49,500.0

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2017 Goal/ Objective	FY 2015 Actuals Dollars (X1000)	FY 2015 Enacted Dollars ¹⁷ (X1000)	FY 2016 Enacted Dollars ¹⁷ (X1000)	FY 2017 President's Request (X1000)
Underground Storage Tanks (UST)	SWDA, Section 2007(f), 42 U.S.C. 6916(f)(2); EPCAct of 2005, Title XV – Ethanol and Motor Fuels, Subtitle B – Underground Storage Tank Compliance, Sections 1521-1533, P.L. 109-58, 42 U.S.C. 15801.	States	Provide funding for States' underground storage tanks and to support direct UST implementation programs.	Goal 3, Obj. 2	\$1,494.0	\$1,498.0	\$1,498.0	\$2,498.0

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2017 Goal/ Objective	FY 2015 Actuals Dollars (X1000)	FY 2015 Enacted Dollars ¹⁷ (X1000)	FY 2016 Enacted Dollars ¹⁷ (X1000)	FY 2017 President's Request (X1000)
Pesticides Program Implementation	FIFRA, Sections 20 and 23; the FY 1999 Appropriations Act (PL 105-276); FY 2000 Appropriations Act (P.L. 106-74); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	Implement the following programs through grants to States, Tribes, partners, and supporters for implementation of pesticide programs, including: Certification and Training (C&T), Worker Protection; Endangered Species Protection Program (ESPP) Field Activities; Pesticides in Water; and Tribal Programs.	Goal 4, Obj. 1	\$12,327.0	\$11,423.0	\$11,423.0	\$11,422.0
					- States formula	- States formula	- States formula	- States formula
					\$421.0	\$1,278.0	\$1,278.0	\$1,779.0
					HQ Programs: - Tribal - PREP	HQ Programs: - Tribal - PREP	HQ Programs: - Tribal - PREP - Pollinator Protection	HQ Programs: - Tribal - PREP - Pollinator Protection
					Total: \$12,748.0	Total: \$12,701.0	Total: \$12,701.0	Total: \$13,201.0

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2017 Goal/ Objective	FY 2015 Actuals Dollars (X1000)	FY 2015 Enacted Dollars ¹⁷ (X1000)	FY 2016 Enacted Dollars ¹⁷ (X1000)	FY 2017 President's Request (X1000)
Lead	TSCA, Section 404 (g); FY 2000 Appropriations Act (P.L. 106-74); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	Provide assistance to states, territories, the District of Columbia, and tribes to develop and implement lead-based paint abatement programs and authorized Renovation, Repair, and Painting (RRP) programs. The EPA directly implements these programs in all areas of the country that are not authorized to do so, and will continue to operate the Federal Lead-based Paint Program Database (FLPP) of trained and certified lead-based paint professionals.	Goal 4, Obj. 1	\$11,974.0 404(g) State/ Tribal Certification \$2,211.0 404(g) Direct Implementation Total: \$14,185.0	\$12,067.0 404(g) State/ Tribal Certification \$1,982.0 404(g) Direct Implementation Total: \$14,049.0	\$12,495.0 404(g) State/ Tribal Certification \$1,554.0 404(g) Direct Implementation Total: \$14,049.0	\$12,067.0 404(g) State/ Tribal Certification \$1,982.0 404(g) Direct Implementation Total: \$14,049.0

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2017 Goal/ Objective	FY 2015 Actuals Dollars (X1000)	FY 2015 Enacted Dollars ¹⁷ (X1000)	FY 2016 Enacted Dollars ¹⁷ (X1000)	FY 2017 President's Request (X1000)
Toxic Substances Compliance	TSCA, Sections 28(a) and 404 (g); TCA in annual Appropriations Acts.	States, Territories, Federally recognized Indian Tribes, Intertribal Consortia, and Territories of the U.S.	Assist in developing, maintaining, and implementing compliance monitoring programs for PCBs, asbestos, and Lead Based Paint. In addition, enforcement actions by: 1) the Lead Based Paint program and 2) States that obtained a "waiver" under the Asbestos program.	Goal 5, Obj. 1	\$4,817.0	\$4,919.0	\$4,919.0	\$4,919.0
Pesticides Enforcement	FIFRA § 23(a)(1); FY 2000 Appropriations Act (P.L. 106-74); TCA in annual Appropriations Acts.	States, Territories, Tribes, Intertribal Consortia	Assist with implementation of cooperative pesticide enforcement programs.	Goal 5, Obj. 1	\$18,013.0	\$18,050.0	\$18,050.0	\$18,050.0

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2017 Goal/ Objective	FY 2015 Actuals Dollars (X1000)	FY 2015 Enacted Dollars ¹⁷ (X1000)	FY 2016 Enacted Dollars ¹⁷ (X1000)	FY 2017 President's Request (X1000)
National Environmental Information Exchange Network (NEIEN, aka "the Exchange Network")	Provided by the annual appropriations for the EPA. As appropriate, CAA, Section 103; CWA, Section 104; RCRA, Section 8001; FIFRA, Section 20; TSCA, Sections 10 and 28; MPRSA, Section 203; SDWA, Section 1442; Indian Environmental General Assistance Program Act of 1992, as amended; Pollution Prevention Act of 1990, Section 6605; FY 2015 Appropriations Act (P.L.113-235)	States, U.S. Territories, Federally Recognized Tribes and Native Villages, Interstate Agencies, Tribal Consortia, Other Agencies with Related Environmental Information Activities.	Helps States, U.S. Territories, Tribes, and intertribal consortia develop the information management and technology (IM/IT) capabilities they need to participate in the Exchange Network, to continue and expand data-sharing programs, and to improve access to environmental information.	N/A	\$12,171.0	\$9,646.0	\$9,646.0	\$25,346.0

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2017 Goal/ Objective	FY 2015 Actuals Dollars (X1000)	FY 2015 Enacted Dollars ¹⁷ (X1000)	FY 2016 Enacted Dollars ¹⁷ (X1000)	FY 2017 President's Request (X1000)
Pollution Prevention	Pollution Prevention Act of 1990, Section 6605; TSCA Section 10; FY 2000 Appropriations Act (P.L. 106-74); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	Provides assistance to States and State entities (i.e., colleges and universities) and Federally-recognized Tribes and intertribal consortia to deliver pollution prevention technical assistance to small and medium-sized businesses. A goal of the program is to assist businesses and industries with identifying improved environmental strategies and solutions for reducing waste at the source.	Goal 4, Obj. 2	\$4,471.0	\$4,765.0	\$4,765.0	\$4,765.0

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2017 Goal/ Objective	FY 2015 Actuals Dollars (X1000)	FY 2015 Enacted Dollars ¹⁷ (X1000)	FY 2016 Enacted Dollars ¹⁷ (X1000)	FY 2017 President's Request (X1000)
Tribal General Assistance Program	Indian Environmental General Assistance Program Act (42 U.S.C. 4368b); TCA in annual Appropriations Acts.	Tribal Governments, Intertribal Consortia	Plan and develop Tribal environmental protection programs.	Goal 3, Obj. 4	\$66,417.0	\$65,476.0	\$65,476.0	\$96,375.0

**Environmental Protection Agency
FY 2017 Annual Performance Plan and Congressional Justification**

**PROGRAM PROJECTS BY PROGRAM AREA
(Dollars in Thousands)**

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	2017 Pres Bud vs. 2016 Enacted
Science & Technology				
Clean Air and Climate				
Clean Air Allowance Trading Programs	\$8,593.0	\$7,808.0	\$7,808.0	\$0.0
Climate Protection Program	\$7,353.0	\$8,018.0	\$8,127.0	\$109.0
Federal Support for Air Quality Management	\$7,530.8	\$7,467.0	\$8,624.0	\$1,157.0
Federal Vehicle and Fuels Standards and Certification	\$107,606.3	\$93,247.0	\$103,595.0	\$10,348.0
Subtotal, Clean Air and Climate	\$131,083.1	\$116,540.0	\$128,154.0	\$11,614.0
Indoor Air and Radiation				
Indoor Air: Radon Program	\$183.3	\$172.0	\$0.0	(\$172.0)
Radiation: Protection	\$2,129.4	\$1,835.0	\$3,062.0	\$1,227.0
Radiation: Response Preparedness	\$3,788.3	\$3,781.0	\$4,034.0	\$253.0
Reduce Risks from Indoor Air	\$309.9	\$209.0	\$414.0	\$205.0
Subtotal, Indoor Air and Radiation	\$6,410.9	\$5,997.0	\$7,510.0	\$1,513.0
Enforcement				
Forensics Support	\$14,151.1	\$13,669.0	\$14,608.0	\$939.0
Homeland Security				
Homeland Security: Critical Infrastructure Protection	\$10,786.3	\$10,517.0	\$10,904.0	\$387.0
Homeland Security: Preparedness, Response, and Recovery	\$27,005.7	\$26,054.0	\$25,696.0	(\$358.0)
Homeland Security: Protection of EPA Personnel and Infrastructure	\$541.0	\$552.0	\$605.0	\$53.0
Subtotal, Homeland Security	\$38,333.0	\$37,123.0	\$37,205.0	\$82.0
IT / Data Management / Security				
Information Security**	\$100.0	\$0.0	\$0.0	\$0.0
IT / Data Management	\$3,171.0	\$3,089.0	\$3,092.0	\$3.0
Subtotal, IT / Data Management / Security	\$3,271.0	\$3,089.0	\$3,092.0	\$3.0
Operations and Administration				
Facilities Infrastructure and Operations	\$67,222.2	\$68,339.0	\$78,447.0	\$10,108.0
Pesticides Licensing				

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	2017 Pres Bud vs. 2016 Enacted
Pesticides: Protect Human Health from Pesticide Risk	\$2,880.9	\$3,128.0	\$2,887.0	(\$241.0)
Pesticides: Protect the Environment from Pesticide Risk	\$1,900.2	\$2,328.0	\$1,854.0	(\$474.0)
Pesticides: Realize the Value of Pesticide Availability	\$552.4	\$571.0	\$548.0	(\$23.0)
Subtotal, Pesticides Licensing	\$5,333.5	\$6,027.0	\$5,289.0	(\$738.0)
Research: Air, Climate and Energy				
Research: Air, Climate and Energy	\$84,453.4	\$91,906.0	\$101,151.0	\$9,245.0
Research: Safe and Sustainable Water Resources				
Research: Safe and Sustainable Water Resources	\$102,249.4	\$107,434.0	\$106,257.0	(\$1,177.0)
Research: Sustainable Communities				
Research: Sustainable and Healthy Communities	\$138,347.5	\$139,975.0	\$134,327.0	(\$5,648.0)
Research: Chemical Safety and Sustainability				
Human Health Risk Assessment	\$39,071.5	\$37,602.0	\$39,259.0	\$1,657.0
Research: Chemical Safety and Sustainability				
<i>Endocrine Disruptors</i>	\$17,772.9	\$16,253.0	\$15,381.0	(\$872.0)
<i>Computational Toxicology</i>	\$20,268.7	\$21,409.0	\$25,744.0	\$4,335.0
<i>Research: Chemical Safety and Sustainability (other activities)</i>	\$53,017.8	\$51,666.0	\$53,837.0	\$2,171.0
Subtotal, Research: Chemical Safety and Sustainability	\$91,059.4	\$89,328.0	\$94,962.0	\$5,634.0
Subtotal, Research: Chemical Safety and Sustainability	\$130,130.9	\$126,930.0	\$134,221.0	\$7,291.0
Water: Human Health Protection				
Drinking Water Programs	\$3,487.4	\$3,519.0	\$3,923.0	\$404.0
Congressional Priorities				
Water Quality Research and Support Grants	\$4,119.0	\$14,100.0	\$0.0	(\$14,100.0)
Total, Science & Technology	\$728,592.4	\$734,648.0	\$754,184.0	\$19,536.0
Environmental Program & Management				
Clean Air and Climate				
Clean Air Allowance Trading Programs	\$20,374.3	\$16,143.0	\$18,807.0	\$2,664.0
Climate Protection Program	\$85,276.8	\$95,436.0	\$107,761.0	\$12,325.0
Federal Stationary Source Regulations	\$25,647.9	\$22,943.0	\$37,893.0	\$14,950.0
Federal Support for Air Quality Management	\$122,762.3	\$124,743.0	\$162,374.0	\$37,631.0
Stratospheric Ozone: Domestic Programs	\$5,675.3	\$4,915.0	\$5,082.0	\$167.0
Stratospheric Ozone: Multilateral Fund	\$8,913.0	\$8,928.0	\$9,057.0	\$129.0

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	2017 Pres Bud vs. 2016 Enacted
Subtotal, Clean Air and Climate	\$268,649.6	\$273,108.0	\$340,974.0	\$67,866.0
Indoor Air and Radiation				
Indoor Air: Radon Program	\$2,946.8	\$2,910.0	\$3,413.0	\$503.0
Radiation: Protection	\$8,167.4	\$8,443.0	\$8,975.0	\$532.0
Radiation: Response Preparedness	\$2,535.7	\$2,550.0	\$3,333.0	\$783.0
Reduce Risks from Indoor Air	\$16,607.2	\$13,733.0	\$14,187.0	\$454.0
Subtotal, Indoor Air and Radiation	\$30,257.1	\$27,636.0	\$29,908.0	\$2,272.0
Brownfields				
Brownfields	\$25,055.0	\$25,593.0	\$25,906.0	\$313.0
Compliance				
Compliance Monitoring	\$103,440.4	\$101,665.0	\$111,270.0	\$9,605.0
Enforcement				
Civil Enforcement	\$169,963.4	\$171,377.0	\$182,497.0	\$11,120.0
Criminal Enforcement	\$47,853.0	\$46,313.0	\$52,572.0	\$6,259.0
Environmental Justice	\$7,123.5	\$6,737.0	\$15,291.0	\$8,554.0
NEPA Implementation	\$15,586.2	\$16,210.0	\$17,758.0	\$1,548.0
Subtotal, Enforcement	\$240,526.1	\$240,637.0	\$268,118.0	\$27,481.0
Geographic Programs				
Geographic Program: Chesapeake Bay	\$86,722.6	\$73,000.0	\$70,000.0	(\$3,000.0)
Geographic Program: Gulf of Mexico	\$2,799.2	\$4,482.0	\$3,983.0	(\$499.0)
Geographic Program: Lake Champlain	\$4,396.0	\$4,399.0	\$1,399.0	(\$3,000.0)
Geographic Program: Long Island Sound	\$3,938.3	\$3,940.0	\$2,893.0	(\$1,047.0)
Geographic Program: Other				
<i>Lake Pontchartrain</i>	\$948.0	\$948.0	\$948.0	\$0.0
<i>S.New England Estuary (SNEE)</i>	\$4,989.8	\$5,000.0	\$5,000.0	\$0.0
<i>Geographic Program: Other (other activities)</i>	\$1,357.4	\$1,445.0	\$965.0	(\$480.0)
Subtotal, Geographic Program: Other	\$7,295.2	\$7,393.0	\$6,913.0	(\$480.0)
Great Lakes Restoration	\$289,507.2	\$300,000.0	\$250,000.0	(\$50,000.0)
Geographic Program: South Florida	\$1,707.8	\$1,704.0	\$1,339.0	(\$365.0)
Geographic Program: San Francisco Bay	\$9,277.4	\$4,819.0	\$4,040.0	(\$779.0)
Geographic Program: Puget Sound	\$27,904.0	\$28,000.0	\$30,034.0	\$2,034.0
Subtotal, Geographic Programs	\$433,547.7	\$427,737.0	\$370,601.0	(\$57,136.0)
Homeland Security				
Homeland Security: Communication and Information	\$3,291.5	\$3,877.0	\$4,106.0	\$229.0

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	2017 Pres Bud vs. 2016 Enacted
Homeland Security: Critical Infrastructure Protection	\$1,147.3	\$972.0	\$1,020.0	\$48.0
Homeland Security: Protection of EPA Personnel and Infrastructure	\$5,610.7	\$5,346.0	\$6,392.0	\$1,046.0
Subtotal, Homeland Security	\$10,049.5	\$10,195.0	\$11,518.0	\$1,323.0
Information Exchange / Outreach				
State and Local Prevention and Preparedness	\$17,942.3	\$15,318.0	\$23,735.0	\$8,417.0
TRI / Right to Know	\$14,639.3	\$13,882.0	\$14,834.0	\$952.0
Tribal - Capacity Building	\$13,871.6	\$14,385.0	\$15,502.0	\$1,117.0
Executive Management and Operations	\$46,780.2	\$47,019.0	\$49,537.0	\$2,518.0
Environmental Education	\$9,578.7	\$8,702.0	\$11,157.0	\$2,455.0
Exchange Network	\$18,395.0	\$17,016.0	\$25,466.0	\$8,450.0
Small Minority Business Assistance	\$1,686.6	\$1,670.0	\$2,015.0	\$345.0
Small Business Ombudsman	\$1,876.4	\$1,999.0	\$2,357.0	\$358.0
Children and Other Sensitive Populations: Agency Coordination	\$6,194.2	\$6,548.0	\$7,842.0	\$1,294.0
Subtotal, Information Exchange / Outreach	\$130,964.3	\$126,539.0	\$152,445.0	\$25,906.0
International Programs				
US Mexico Border	\$3,503.6	\$3,063.0	\$4,760.0	\$1,697.0
International Sources of Pollution	\$6,364.8	\$6,430.0	\$7,329.0	\$899.0
Trade and Governance	\$5,715.1	\$5,907.0	\$6,010.0	\$103.0
Subtotal, International Programs	\$15,583.5	\$15,400.0	\$18,099.0	\$2,699.0
IT / Data Management / Security				
Information Security	\$6,981.9	\$28,186.0	\$21,138.0	(\$7,048.0)
IT / Data Management	\$82,204.2	\$83,950.0	\$105,836.0	\$21,886.0
Subtotal, IT / Data Management / Security	\$89,186.1	\$112,136.0	\$126,974.0	\$14,838.0
Legal / Science / Regulatory / Economic Review				
Integrated Environmental Strategies	\$12,835.1	\$11,491.0	\$27,407.0	\$15,916.0
Administrative Law	\$4,507.4	\$4,774.0	\$4,710.0	(\$64.0)
Alternative Dispute Resolution	\$1,272.5	\$1,045.0	\$1,255.0	\$210.0
Civil Rights Program	\$10,113.3	\$10,071.0	\$12,338.0	\$2,267.0
Legal Advice: Environmental Program	\$45,980.5	\$48,565.0	\$53,021.0	\$4,456.0
Legal Advice: Support Program	\$15,046.8	\$15,480.0	\$19,327.0	\$3,847.0
Regional Science and Technology	\$2,262.1	\$1,532.0	\$2,995.0	\$1,463.0
Science Advisory Board	\$4,248.0	\$3,882.0	\$5,556.0	\$1,674.0
Regulatory/Economic-Management and Analysis	\$14,916.4	\$14,574.0	\$19,074.0	\$4,500.0

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	2017 Pres Bud vs. 2016 Enacted
Subtotal, Legal / Science / Regulatory / Economic Review	\$111,182.1	\$111,414.0	\$145,683.0	\$34,269.0
Operations and Administration				
Central Planning, Budgeting, and Finance	\$74,705.6	\$72,184.0	\$76,674.0	\$4,490.0
Facilities Infrastructure and Operations	\$313,026.1	\$311,540.0	\$329,281.0	\$17,741.0
Acquisition Management	\$31,443.4	\$30,464.0	\$35,298.0	\$4,834.0
Human Resources Management	\$44,408.6	\$43,267.0	\$50,630.0	\$7,363.0
Financial Assistance Grants / IAG Management	\$26,333.8	\$25,296.0	\$28,433.0	\$3,137.0
Subtotal, Operations and Administration	\$489,917.5	\$482,751.0	\$520,316.0	\$37,565.0
Pesticides Licensing				
Science Policy and Biotechnology	\$1,326.0	\$1,174.0	\$1,444.0	\$270.0
Pesticides: Protect Human Health from Pesticide Risk	\$55,204.4	\$57,809.0	\$60,372.0	\$2,563.0
Pesticides: Protect the Environment from Pesticide Risk	\$34,816.4	\$37,293.0	\$42,235.0	\$4,942.0
Pesticides: Realize the Value of Pesticide Availability	\$8,642.4	\$6,086.0	\$6,845.0	\$759.0
Subtotal, Pesticides Licensing	\$99,989.2	\$102,362.0	\$110,896.0	\$8,534.0
Resource Conservation and Recovery Act (RCRA)				
RCRA: Corrective Action	\$36,018.5	\$36,930.0	\$37,057.0	\$127.0
RCRA: Waste Management				
<i>eManifest</i>	(\$11.7)	\$0.0	\$0.0	\$0.0
<i>RCRA: Waste Management (other activities)</i>	\$58,367.4	\$59,098.0	\$62,842.0	\$3,744.0
Subtotal, RCRA: Waste Management	\$58,355.7	\$59,098.0	\$62,842.0	\$3,744.0
RCRA: Waste Minimization & Recycling	\$8,066.8	\$8,849.0	\$10,809.0	\$1,960.0
Subtotal, Resource Conservation and Recovery Act (RCRA)	\$102,441.0	\$104,877.0	\$110,708.0	\$5,831.0
Toxics Risk Review and Prevention				
Endocrine Disruptors	\$11,502.9	\$7,553.0	\$4,329.0	(\$3,224.0)
Pollution Prevention Program	\$12,960.5	\$13,140.0	\$13,930.0	\$790.0
Toxic Substances: Chemical Risk Management	(\$1.6)	\$0.0	\$0.0	\$0.0
Toxic Substances: Chemical Risk Review and Reduction	\$58,721.1	\$58,554.0	\$67,186.0	\$8,632.0
Toxic Substances: Lead Risk Reduction Program	\$14,140.8	\$13,275.0	\$13,598.0	\$323.0
Subtotal, Toxics Risk Review and Prevention	\$97,323.7	\$92,522.0	\$99,043.0	\$6,521.0
Underground Storage Tanks (LUST / UST)				
LUST / UST	\$12,036.0	\$11,295.0	\$11,612.0	\$317.0
Water: Ecosystems				

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	2017 Pres Bud vs. 2016 Enacted
National Estuary Program / Coastal Waterways	\$27,528.5	\$26,723.0	\$27,191.0	\$468.0
Wetlands	\$20,920.3	\$21,065.0	\$23,668.0	\$2,603.0
Subtotal, Water: Ecosystems	\$48,448.8	\$47,788.0	\$50,859.0	\$3,071.0
Water: Human Health Protection				
Beach / Fish Programs	\$2,412.4	\$1,982.0	\$775.0	(\$1,207.0)
Drinking Water Programs	\$97,916.7	\$96,525.0	\$108,662.0	\$12,137.0
Subtotal, Water: Human Health Protection	\$100,329.1	\$98,507.0	\$109,437.0	\$10,930.0
Water Quality Protection				
Marine Pollution	\$10,363.5	\$10,161.0	\$10,313.0	\$152.0
Surface Water Protection	\$199,425.7	\$200,256.0	\$228,213.0	\$27,957.0
Subtotal, Water Quality Protection	\$209,789.2	\$210,417.0	\$238,526.0	\$28,109.0
Congressional Priorities				
Water Quality Research and Support Grants	\$12,700.0	\$12,700.0	\$0.0	(\$12,700.0)
Total, Environmental Program & Management	\$2,631,415.9	\$2,635,279.0	\$2,852,893.0	\$217,614.0
Inspector General				
Audits, Evaluations, and Investigations				
Audits, Evaluations, and Investigations	\$42,542.3	\$41,489.0	\$51,527.0	\$10,038.0
Total, Inspector General	\$42,542.3	\$41,489.0	\$51,527.0	\$10,038.0
Building and Facilities				
Homeland Security				
Homeland Security: Protection of EPA Personnel and Infrastructure	\$7,957.7	\$6,676.0	\$7,875.0	\$1,199.0
Operations and Administration				
Facilities Infrastructure and Operations	\$33,326.3	\$35,641.0	\$44,203.0	\$8,562.0
Total, Building and Facilities	\$41,284.0	\$42,317.0	\$52,078.0	\$9,761.0
Hazardous Substance Superfund				
Indoor Air and Radiation				
Radiation: Protection	\$1,869.5	\$1,985.0	\$2,182.0	\$197.0
Audits, Evaluations, and Investigations				
Audits, Evaluations, and Investigations	\$9,959.3	\$9,939.0	\$8,778.0	(\$1,161.0)

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	2017 Pres Bud vs. 2016 Enacted
Compliance				
Compliance Monitoring	\$1,001.7	\$995.0	\$1,099.0	\$104.0
Enforcement				
Criminal Enforcement	\$6,996.9	\$7,124.0	\$7,824.0	\$700.0
Environmental Justice	\$605.1	\$545.0	\$612.0	\$67.0
Forensics Support	\$2,439.5	\$1,089.0	\$1,150.0	\$61.0
Superfund: Enforcement	\$154,870.8	\$150,628.0	\$158,619.0	\$7,991.0
Superfund: Federal Facilities Enforcement	\$6,730.0	\$6,989.0	\$7,452.0	\$463.0
Subtotal, Enforcement	\$171,642.3	\$166,375.0	\$175,657.0	\$9,282.0
Homeland Security				
Homeland Security: Preparedness, Response, and Recovery	\$39,405.1	\$35,276.0	\$31,503.0	(\$3,773.0)
Homeland Security: Protection of EPA Personnel and Infrastructure	\$1,351.7	\$1,086.0	\$1,113.0	\$27.0
Subtotal, Homeland Security	\$40,756.8	\$36,362.0	\$32,616.0	(\$3,746.0)
Information Exchange / Outreach				
Exchange Network	\$1,321.1	\$1,328.0	\$1,366.0	\$38.0
IT / Data Management / Security				
Information Security	\$541.5	\$6,083.0	\$4,704.0	(\$1,379.0)
IT / Data Management	\$13,865.7	\$13,802.0	\$15,437.0	\$1,635.0
Subtotal, IT / Data Management / Security	\$14,407.2	\$19,885.0	\$20,141.0	\$256.0
Legal / Science / Regulatory / Economic Review				
Alternative Dispute Resolution	\$748.8	\$675.0	\$767.0	\$92.0
Legal Advice: Environmental Program	\$735.5	\$578.0	\$511.0	(\$67.0)
Subtotal, Legal / Science / Regulatory / Economic Review	\$1,484.3	\$1,253.0	\$1,278.0	\$25.0
Operations and Administration				
Central Planning, Budgeting, and Finance	\$23,542.1	\$22,126.0	\$24,025.0	\$1,899.0
Facilities Infrastructure and Operations	\$77,680.0	\$74,278.0	\$70,960.0	(\$3,318.0)
Acquisition Management	\$20,910.2	\$22,461.0	\$24,468.0	\$2,007.0
Human Resources Management	\$7,683.0	\$6,345.0	\$8,020.0	\$1,675.0
Financial Assistance Grants / IAG Management	\$2,778.5	\$2,895.0	\$3,135.0	\$240.0
Subtotal, Operations and Administration	\$132,593.8	\$128,105.0	\$130,608.0	\$2,503.0
Research: Sustainable Communities				

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	2017 Pres Bud vs. 2016 Enacted
Research: Sustainable and Healthy Communities	\$14,611.0	\$14,032.0	\$11,463.0	(\$2,569.0)
Research: Chemical Safety and Sustainability				
Human Health Risk Assessment	\$2,618.7	\$2,843.0	\$2,824.0	(\$19.0)
Superfund Cleanup				
Superfund: Emergency Response and Removal	\$191,026.5	\$181,306.0	\$185,233.0	\$3,927.0
Superfund: EPA Emergency Preparedness	\$8,248.3	\$7,636.0	\$7,931.0	\$295.0
Superfund: Federal Facilities	\$23,212.2	\$21,125.0	\$26,770.0	\$5,645.0
Superfund: Remedial	\$560,891.9	\$501,000.0	\$521,043.0	\$20,043.0
Subtotal, Superfund Cleanup	\$783,378.9	\$711,067.0	\$740,977.0	\$29,910.0
Total, Hazardous Substance Superfund	\$1,175,644.6	\$1,094,169.0	\$1,128,989.0	\$34,820.0
Leaking Underground Storage Tanks				
Enforcement				
Civil Enforcement	\$588.1	\$620.0	\$668.0	\$48.0
Operations and Administration				
Central Planning, Budgeting, and Finance	\$404.5	\$424.0	\$430.0	\$6.0
Facilities Infrastructure and Operations	\$757.9	\$783.0	\$1,101.0	\$318.0
Acquisition Management	\$160.8	\$145.0	\$138.0	(\$7.0)
Subtotal, Operations and Administration	\$1,323.2	\$1,352.0	\$1,669.0	\$317.0
Underground Storage Tanks (LUST / UST)				
LUST / UST	\$9,608.4	\$9,240.0	\$9,322.0	\$82.0
LUST Cooperative Agreements	\$55,573.9	\$55,040.0	\$54,402.0	(\$638.0)
LUST Prevention	\$25,369.8	\$25,369.0	\$27,859.0	\$2,490.0
Subtotal, Underground Storage Tanks (LUST / UST)	\$90,552.1	\$89,649.0	\$91,583.0	\$1,934.0
Research: Sustainable Communities				
Research: Sustainable and Healthy Communities	\$284.5	\$320.0	\$365.0	\$45.0
Total, Leaking Underground Storage Tanks	\$92,747.9	\$91,941.0	\$94,285.0	\$2,344.0
Inland Oil Spill Programs				
Compliance				
Compliance Monitoring	\$136.3	\$139.0	\$160.0	\$21.0
Enforcement				
Civil Enforcement	\$2,438.4	\$2,413.0	\$2,492.0	\$79.0

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	2017 Pres Bud vs. 2016 Enacted
Oil				
Oil Spill: Prevention, Preparedness and Response	\$14,500.7	\$14,409.0	\$20,461.0	\$6,052.0
Operations and Administration				
Facilities Infrastructure and Operations	\$498.0	\$584.0	\$1,763.0	\$1,179.0
Research: Sustainable Communities				
Research: Sustainable and Healthy Communities	\$696.4	\$664.0	\$534.0	(\$130.0)
Total, Inland Oil Spill Programs	\$18,269.8	\$18,209.0	\$25,410.0	\$7,201.0
State and Tribal Assistance Grants				
State and Tribal Assistance Grants (STAG)				
Infrastructure Assistance: Alaska Native Villages	\$9,821.9	\$20,000.0	\$17,000.0	(\$3,000.0)
Brownfields Projects	\$88,086.1	\$80,000.0	\$90,000.0	\$10,000.0
Infrastructure Assistance: Clean Water SRF	\$1,438,247.3	\$1,393,887.0	\$979,500.0	(\$414,387.0)
Infrastructure Assistance: Drinking Water SRF	\$907,052.9	\$863,233.0	\$1,020,500.0	\$157,267.0
Infrastructure Assistance: Mexico Border	\$7,232.1	\$10,000.0	\$5,000.0	(\$5,000.0)
Diesel Emissions Reduction Grant Program	\$36,139.1	\$50,000.0	\$10,000.0	(\$40,000.0)
Targeted Airshed Grants	\$0.0	\$20,000.0	\$0.0	(\$20,000.0)
Subtotal, State and Tribal Assistance Grants (STAG)	\$2,486,579.4	\$2,437,120.0	\$2,122,000.0	(\$315,120.0)
Categorical Grants				
Categorical Grant: Nonpoint Source (Sec. 319)	\$165,685.9	\$164,915.0	\$164,915.0	\$0.0
Categorical Grant: Public Water System Supervision (PWSS)	\$102,021.2	\$101,963.0	\$109,700.0	\$7,737.0
Categorical Grant: State and Local Air Quality Management	\$231,120.5	\$228,219.0	\$268,229.0	\$40,010.0
Categorical Grant: Radon	\$8,266.7	\$8,051.0	\$0.0	(\$8,051.0)
Categorical Grant: Pollution Control (Sec. 106)				
<i>Monitoring Grants</i>	\$16,867.3	\$17,848.0	\$18,500.0	\$652.0
<i>Categorical Grant: Pollution Control (Sec. 106) (other activities)</i>	\$212,663.2	\$212,958.0	\$227,664.0	\$14,706.0
Subtotal, Categorical Grant: Pollution Control (Sec. 106)	\$229,530.5	\$230,806.0	\$246,164.0	\$15,358.0
Categorical Grant: Wetlands Program Development	\$16,713.2	\$14,661.0	\$17,661.0	\$3,000.0
Categorical Grant: Underground Injection Control (UIC)	\$11,130.5	\$10,506.0	\$10,506.0	\$0.0
Categorical Grant: Pesticides Program Implementation	\$12,747.8	\$12,701.0	\$13,201.0	\$500.0
Categorical Grant: Lead	\$14,184.9	\$14,049.0	\$14,049.0	\$0.0
Categorical Grant: Hazardous Waste Financial Assistance	\$101,311.3	\$99,693.0	\$99,693.0	\$0.0

	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Bud	2017 Pres Bud vs. 2016 Enacted
Categorical Grant: Pesticides Enforcement	\$18,012.7	\$18,050.0	\$18,050.0	\$0.0
Categorical Grant: Pollution Prevention	\$4,471.0	\$4,765.0	\$4,765.0	\$0.0
Categorical Grant: Toxics Substances Compliance	\$4,817.4	\$4,919.0	\$4,919.0	\$0.0
Categorical Grant: Tribal General Assistance Program	\$66,416.6	\$65,476.0	\$96,375.0	\$30,899.0
Categorical Grant: Underground Storage Tanks	\$1,494.0	\$1,498.0	\$2,498.0	\$1,000.0
Categorical Grant: Tribal Air Quality Management	\$13,610.5	\$12,829.0	\$12,829.0	\$0.0
Categorical Grant: Environmental Information	\$12,170.9	\$9,646.0	\$25,346.0	\$15,700.0
Categorical Grant: Beaches Protection	\$9,868.1	\$9,549.0	\$0.0	(\$9,549.0)
Categorical Grant: Brownfields	\$48,202.5	\$47,745.0	\$49,500.0	\$1,755.0
Categorical Grant: Multipurpose Grants	\$0.0	\$21,000.0	\$0.0	(\$21,000.0)
Subtotal, Categorical Grants	\$1,071,776.2	\$1,081,041.0	\$1,158,400.0	\$77,359.0
Congressional Priorities				
Congressionally Mandated Projects	\$14,797.9	\$0.0	\$0.0	\$0.0
Total, State and Tribal Assistance Grants	\$3,573,153.5	\$3,518,161.0	\$3,280,400.0	(\$237,761.0)
Hazardous Waste Electronic Manifest System Fund				
Resource Conservation and Recovery Act (RCRA)				
RCRA: Waste Management	\$1,468.6	\$3,674.0	\$7,433.0	\$3,759.0
Total, Hazardous Waste Electronic Manifest System Fund	\$1,468.6	\$3,674.0	\$7,433.0	\$3,759.0
Water Infrastructure Finance and Innovation Fund				
Water Quality Protection				
Water Infrastructure Finance and Innovation	\$0.0	\$0.0	\$20,000.0	\$20,000.0
Total, Water Infrastructure Finance and Innovation Fund	\$0.0	\$0.0	\$20,000.0	\$20,000.0
SUB-TOTAL, EPA	\$8,305,119.0	\$8,179,887.0	\$8,267,199.0	\$87,312.0
Rescission of Prior Year Funds	\$0.0	(\$40,000.0)	\$0.0	\$40,000.0
SUB-TOTAL, EPA (INCLUDING RESCISSIONS)	\$8,305,119.0	\$8,139,887.0	\$8,267,199.0	\$127,312.0
Hurricane Sandy Supplemental	\$686.0	\$0.0	\$0.0	\$0.0
TOTAL, EPA	\$8,305,805.0	\$8,139,887.0	\$8,267,199.0	\$127,312.0

*For ease of comparison, Superfund transfer resources for the audit and research functions are shown in the Superfund account.**2015 Actuals include spending under the Science and Technology appropriation in Information Security that should be in IT/Data Management.

DISCONTINUED PROGRAMS

NOTE: The EPA did not request funding for the Congressionally directed projects funded in FY 2016.

Congressionally Directed Projects (By Appropriation):

(Dollars in Thousands)

Appropriation	FY 2015 Actuals	FY 2016 Enacted	FY 2017 Pres Budget	Change: 17 Pres Budget– 16 Enacted
EPM	\$ 12,700.0	\$ 12,700.0	\$0.0	(\$12,700.0)
S&T	\$ 4,119.0	\$ 14,100.0	\$0.0	(\$ 14,100.0)
STAG	\$ 0.0	\$ 41,000.0	\$0.0	(\$ 41,000.0)
Total	\$ 16,819.0	\$ 67,800.0	\$0.0	(\$67,800.0)

EXPECTED BENEFITS OF THE PRESIDENT'S E-GOVERNMENT INITIATIVES

Grants.gov

The Grants.gov initiative benefits the EPA and its grant programs by providing a single location to publish grant opportunities and application packages, and by providing a single site for the grants community to apply for grants using common forms, processes and systems. The EPA believes that the central site raises the visibility of its grants opportunities to a wider diversity of applicants.

The grants community benefits from savings in postal costs, paper and envelopes. Applicants save time in searching for agency grant opportunities and in learning the application systems of various agencies. In order to streamline the application process, the EPA offers Grants.gov application packages for mandatory State grants (i.e., Continuing Environmental Program Grants).

Fiscal Year	Account Code	EPA Contribution (in thousands)
2015	020-00-04-00-04-0160-24	\$282.0
2016	020-00-04-00-04-0160-24	\$272.0
2017	020-00-04-00-04-0160-24	\$217.0

Integrated Acquisition Environment

The Integrated Acquisition Environment (IAE) is currently comprised of nine government-wide automated applications and/or databases that have contributed to streamlining the acquisition business process across the government. In FY 2012, GSA began the process of consolidating the systems into one central repository called the System for Award Management (SAM). Until the consolidation is complete, the EPA continues to leverage the usefulness of some of these systems via electronic linkages between the EPA's acquisition system and the IAE shared systems. Other IAE systems are not linked directly to the EPA's acquisition system, but benefit the agency's contracting staff and vendor community as stand-alone resources.

The EPA's acquisition system uses data provided by SAM to replace internally maintained vendor data. Contracting officers can download vendor-provided representation and certification information electronically via SAM as well, which allows vendors to submit this information once rather than separately for every contract proposal. Contracting officers are able to access the Excluded Parties List (EPLS) via SAM to identify vendors that are debarred from receiving contract awards.

Contracting officers also can link to the Wage Determination Online (WDOL) to obtain information required under the Service Contract Act and the Davis-Bacon Act. The EPA's acquisition system links to the Federal Procurement Data System (FPDS) for submission of contract actions at the time of award. FPDS provides public access to government-wide contract information. The Electronic Subcontracting Reporting System (eSRS) supports vendor submission of subcontracting data for contracts identified as requiring this information. The EPA submits synopses of procurement opportunities over \$25,000 to the Federal Business Opportunities (FBO) website, where the information is accessible to the public. Vendors use this website to identify business opportunities in federal contracting.

Further, the Federal Funding Accountability and Transparency Act (FFATA) requires agencies to unambiguously identify contract, grant, and loan recipients and determine parent/child relationship and address information. The FFATA taskforce determined that using both the Dun and Bradstreet (D&B) DUNS Number (standard identifier for all business lines) and Central Contractor Registration (CCR, the single point of entry for data collection and dissemination) are the most appropriate ways to accomplish this. This fee will pay for the EPA's use of this service in the course of reporting grants and/or loans. Funds also may be used to consolidate disparate contract and grant systems into the new SAM.

Fiscal Year	Account Code	EPA Service Fee (in thousands)
2015	020-00-01-16-04-0230-24	\$96.0
2016	020-00-01-16-04-0230-24	\$245.0
2017	020-00-01-16-04-0230-24	\$857.0

Enterprise Human Resource Integration

The Enterprise Human Resource Integration's (EHRI) Electronic Official Personnel Folder (eOPF) is designed to provide a consolidated repository that digitally documents the employment actions and history of individuals employed by the federal government. The EPA has completed migration to the federal eOPF system. This initiative benefits the agency by reducing file room maintenance costs and improves customer service for employees and productivity for HR specialists. Employees have 24/7 access to view and print their official personnel documents and HR specialists are no longer required to manually file, retrieve or mail personnel actions to employees thus improved productivity.

Fiscal Year	Account Code	EPA Service Fee (in thousands)
2015	020-00-01-16-03-1219-24	\$293.0
2016	020-00-01-16-03-1219-24	\$293.0
2017	020-00-01-16-03-1219-24	\$293.0

USA Jobs

U.S. Office of Personnel Management (OPM) USA Jobs simplifies the process of locating and applying for federal jobs. USA Jobs is a standard job announcement and resume builder website. It is the one-stop for federal job seekers to search for and apply to positions on-line. This integrated process benefits citizens by providing a more efficient process to locate and apply for jobs, and assists federal agencies in hiring top talent in a competitive marketplace. The OPM USA Jobs initiative has increased job seeker satisfaction with the federal job application process and is helping the agency to locate highly-qualified candidates and improve response times to applicants.

The agency is required to integrate with USA Jobs, to eliminate the need for applicants to maintain multiple user IDs to apply for federal jobs across agencies. The vacancy announcement format has been improved for easier readability. The system can maintain up to five resumes per applicant, which allows them to create and store resumes tailored to specific skills. In addition, USA Jobs has a notification feature that keeps applicants updated on the current status of the application, and

provides a link to the agency website for detailed information. This self-help USA Jobs feature allows applicants to obtain up-to-date information on the status of their application upon request.

Fiscal Year	Account Code	EPA Service Fee (in thousands)
2015	020-00-01-16-04-1218-24	\$107.0
2016	020-00-01-16-04-1218-24	\$97.0
2017	020-00-01-16-04-1218-24	\$116.0

Human Resources Line of Business

The U.S. Office of Personnel Management (OPM) Human Resources Line of Business (HR LoB) provides the federal government the infrastructure to support pay-for-performance systems, modernized HR systems, and the core functionality necessary for the strategic management of human capital.

The OPM HR LoB offers common solutions that will enable federal departments and agencies to work more effectively, and provide managers and executives across the federal government an improved means to meet strategic objectives. The EPA will benefit by supporting an effective program management activity which evaluates provider performance, customer satisfaction, and compliance with program goals, on an ongoing basis.

Fiscal Year	Account Code	EPA Contribution (in thousands)
2015	020-00-01-16-04-1200-24	\$65.0
2016	020-00-01-16-04-1200-24	\$65.0
2017	020-00-01-16-04-1200-24	\$65.0

Geospatial Line of Business

The Geospatial Line of Business is an intergovernmental project to improve the ability of the public and government to use geospatial information to support the business of government and facilitate decision-making. This initiative will reduce costs and improve agency operations in several areas.

During FY 2014, the Geospatial Line of Business resulted in the Geospatial Platform being operationalized with the Department of Interior as the managing partner. Two major planning efforts to advance the National Spatial Data Infrastructure (NSDI) also were completed – the development of an NSDI Strategic Plan and a National Geospatial Data (NGDA) Asset Management Plan. The EPA played a major role in formulating the NGDA plan.

During FY 2016 and FY 2017, efforts will increase access to implement the NDGA plan and incorporate many national geospatial data and analytical services into the Geospatial Platform for federal agencies, their partners, and stakeholders. Over time, the EPA intends to use the Geospatial Platform on an increasing basis to obtain data and services for internal analytical purposes as well as to publish outward-facing geospatial capabilities to the public.

The EPA continues to be a leader in developing the vision and operational plans for the implementation of the A-16 Supplemental Guidance and the National Geospatial Platform. In FY 2017, the agency expects to continue to play an active role in shaping the direction of these important efforts. The EPA is expected to contribute to operation of the National Geospatial Platform in FY 2017. The intent is to reduce base costs by providing an opportunity for the EPA and other agencies to share approaches on procurement consolidation, include shared services for hosting geospatial data, services and applications.

Fiscal Year	Account Code	EPA Contribution (in thousands)
2015	020-00-01-16-04-3100-24	\$225.0
2016	020-00-01-16-04-3100-24	\$225.0
2017	020-00-01-16-04-3100-24	\$225.0

eRulemaking

The eRulemaking program is designed to enhance public access and participation in the regulatory process through electronic systems; reduce the burden on citizens and businesses in finding relevant regulations and commenting on proposed rulemaking actions; consolidate redundant docket systems; and improve agency regulatory processes and the timeliness of regulatory decisions.

The eRulemaking program's Federal Docket Management System (FDMS) currently supports 180 federal entities including all Cabinet-level Departments and independent rulemaking agencies, which collectively promulgate approximately 90 percent of all federal regulations each year. FDMS has simplified the public's participation in the rulemaking process and made the EPA's rulemaking business processes more accessible as well as transparent. FDMS provides the EPA's approximately 1,372 active users with a secure, centralized electronic repository for managing the agency's rulemaking development via distributed management of data and robust role-based user access. The EPA posts regulatory and non-regulatory documents in *Regulations.gov* for public viewing, downloading, bookmarking, email notification and commenting. In FY 2015, the EPA posted 1,275 rules and proposed rules, 1,051 *Federal Register* notices, and 52,110 public submissions in *Regulations.gov*. The EPA also posted 17,934 documents that consisted of supporting and related materials associated with other postings. Overall, the EPA provides public access to 934,254 documents in *Regulations.gov*.

Fiscal Year	Account Code	EPA Service Fee (in thousands)
2015	020-00-01-16-01-0060-24	\$1,000.0
2016	020-00-01-16-01-0060-24	\$941.0
2017	020-00-01-16-01-0060-24	\$1,000.0

Financial Management Line of Business

The Financial Management Line of Business (FM LoB) is a multi-agency effort whose goals include: achieving process improvements and cost savings in the acquisition, development, implementation, and operation of financial management systems. By incorporating the same FM LoB-standard processes as those used by central agency systems, interfaces among financial

systems will be streamlined and the quality of information available for decision-making will be improved.

Fiscal Year	Account Code	EPA Contribution (in thousands)
2015	020-00-01-01-04-1100-24	\$96.0
2016	020-00-01-01-04-1100-24	\$96.0
2017	020-00-01-01-04-1100-24	\$96.0

Budget Formulation and Execution Line of Business

The Budget Formulation and Execution Line of Business (BFELoB) allows the EPA and other agencies to access budget-related benefits and services. The agency has the option to implement LoB-sponsored tools, training and services.

The EPA has benefited from the BFELoB by sharing valuable information on how systems and software being developed by the LoB have enhanced work processes. This effort has created a government-only capability for electronic collaboration (*Wiki*) in which the Budget Community website allows the EPA to share budget information internally, with OMB, and with other federal agencies. The agency also made contributions to the Human Capital Workgroup, participating in development of on-line training modules for budget activities – a valuable resource to all agency budget staff. The LoB has developed the capability to have secure, virtual on-line meetings where participants can view budget-related presentations from their workspace and participate in the discussion through a conference line. The LoB provides regularly scheduled symposia as an additional forum for EPA budget employees.

Fiscal Year	Account Code	EPA Contribution (in thousands)
2015	010-00-01-01-04-3200-24	\$75.0
2016	010-00-01-01-04-3200-24	\$75.0
2017	010-00-01-01-04-3200-24	\$110.0

FY 2016-2017 AGENCY PRIORITY GOALS

Below are EPA's FY 2016-2017 Agency Priority Goals. Additional information on Priority Goals can be found at <http://www.performance.gov/>. EPA also contributes to a number of Cross-Agency Priority (CAP) Goals. Detailed information on CAP goals also can be found on Performance.gov.

FY 2016-2017 Agency Priority Goals	Goal Leader
<p>Reduce greenhouse gas emissions from cars and trucks. Through September 30, 2017, EPA, in coordination with Department of Transportation's fuel economy and fuel consumption standards programs, will implement vehicle and commercial truck greenhouse gas standards with a focus on industry compliance to ensure the significant reductions in greenhouse gases and oil consumption called for under the standards are realized. The light-duty and heavy-duty standards for model years 2012-2025 are projected to reduce greenhouse gas (GHG) emissions by more than 6.3 billion metric tons and reduce U.S. oil consumption by more than 12.5 billion barrels over the lifetime of the affected vehicles and commercial trucks.</p>	<p>Betsy Shaw, Deputy Assistant Administrator, Office of Air and Radiation</p>
<p>Advance resilience in the nation's water infrastructure, while protecting public health and the environment, particularly in high-risk and vulnerable communities. By September 30, 2017, EPA will provide technical assistance and other tools to 25 urban communities to advance green infrastructure planning and implementation efforts to increase local climate resilience and water quality protections in stormwater infrastructure. EPA also will provide tools and training for 1000 operators of small water utilities to improve resilience in drinking water, wastewater, and stormwater systems. Trainings will be targeted based on regional threats, such as drought and flooding.</p>	<p>Michael H. Shapiro, Deputy Assistant Administrator, Office of Water</p>
<p>Clean up contaminated sites to enhance the livability and economic vitality of communities. By September 30, 2017, an additional 18,600 sites will be made ready for anticipated use (RAU) protecting Americans' health and the environment, one community at a time.</p>	<p>Barry Breen, Deputy Assistant Administrator, Office of Land and Emergency Management</p>
<p>Assess and reduce risks posed by chemicals and promote the use of safer chemicals in commerce. By September 30, 2017, the EPA will complete more than 3,400 assessments of pesticides and other commercially available chemicals to evaluate risks they may pose to human health and the environment. These assessments are essential in determining whether products containing these chemicals can be used safely for commercial, agricultural, and/or industrial uses. For example, assessments can help determine the potential for chemicals to disrupt endocrine systems or to pose risks to honey bees and other pollinators by outdoor use of pesticides.</p>	<p>Louise P. Wise, Deputy Assistant Administrator, Office of Chemical Safety and Pollution Prevention</p>

Strengthen environmental protection through business process improvements enabled by joint governance and technology.

By September 30, 2017, reduce burden by one million hours, add five new functionalities to the E-Enterprise Portal, and begin development on two projects selected through E-Enterprise Leadership Council joint governance.

David A. Bloom,
Deputy Chief Financial
Officer,
Office of the Chief
Financial Officer

FY 2017 ADMINISTRATOR'S PRIORITIES

The Administrator's priorities are allocated by program project in the FY 2017 President's Budget with a total of \$4.75 million in the Environmental and Program Management Account and \$250 thousand in the Science and Technology Account.

These funds which are set aside for the Administrator's priorities are contingency funds for the agency to use to address unforeseen issues that may arise during the year. These funds are distributed in various program projects across the budget and used during the operating plan to support critical unplanned issues.

FY 2017 President's Budget Funding for Administrator's Priorities

(Dollars in thousands)

Appropriation	Program Project	Dollars in Thousands
EPM	Acquisition Management	\$150
EPM	Brownfields	\$175
EPM	Children and Other Sensitive Populations: Agency Coordination	\$50
EPM	Civil Enforcement	\$180
EPM	Civil Rights Program	\$75
EPM	Clean Air Allowance Trading Programs	\$100
EPM	Climate Protection Program	\$70
EPM	Compliance Monitoring	\$200
EPM	Criminal Enforcement	\$145
EPM	Drinking Water Programs	\$100
EPM	Environmental Justice	\$50
EPM	Exchange Network	\$75
EPM	Federal Stationary Source Regulations	\$100
EPM	Federal Support for Air Quality Management	\$130
EPM	Financial Assistance Grants / IAG Management	\$150
EPM	Human Resources Management	\$150
EPM	Integrated Environmental Strategies	\$75
EPM	International Sources of Pollution	\$50
EPM	IT / Data Management	\$200
EPM	Legal Advice: Environmental Program	\$100
EPM	Legal Advice: Support Program	\$75
EPM	LUST / UST	\$100
EPM	Marine Pollution	\$100
EPM	NEPA Implementation	\$100
EPM	Pesticides: Protect Human Health from Pesticide Risk	\$150
EPM	Pesticides: Protect the Environment from Pesticide Risk	\$150
EPM	Pesticides: Realize the Value of Pesticide Availability	\$100
EPM	Pollution Prevention Program	\$100
EPM	RCRA: Corrective Action	\$100
EPM	RCRA: Waste Management	\$170
EPM	RCRA: Waste Minimization & Recycling	\$50
EPM	Reduce Risks from Indoor Air	\$150
EPM	Regulatory/Economic-Management and Analysis	\$75
EPM	Science Advisory Board	\$100
EPM	State and Local Prevention and Preparedness	\$100
EPM	Surface Water Protection	\$300
EPM	Toxic Substances: Chemical Risk Review and Reduction	\$175
EPM	Toxic Substances: Lead Risk Reduction Program	\$75
EPM	TRI / Right to Know	\$75
EPM	Tribal - Capacity Building	\$50
EPM	Wetlands	\$130
S&T	Federal Support for Air Quality Management	\$50
S&T	Research: Air, Climate and Energy	\$100
S&T	Research: Chemical Safety and Sustainability	\$100
Total		\$5,000

PROPOSED FY 2017 ADMINISTRATIVE PROVISIONS

To further clarify proposed Administrative Provisions that involve more than a simple annual extension or propose a modification to an existing provision, the following information is provided.

Petroleum Set-Aside for Brownfields Projects Grants

Per the Consolidated Appropriations Act, 2016 (P.L. 114-113), the EPA appreciates the flexibility to use no more than 25 percent of its CERCLA Section 104 (k) funding to address petroleum contaminated sites. In FY 2017, the EPA continues to request the flexibility to use up to 25 percent of its CERCLA 104 (k) funding to address petroleum contaminated sites versus an exact 25 percent identified by statute. Current statutory language requires that exactly 25 percent of Brownfields Projects grants be provided for petroleum cleanups. The proposed language gives the agency more flexibility to award grants to the highest-ranking proposals, regardless of the type of funding requested, while still setting aside money for petroleum cleanups.

\$90,000,000 shall be to carry out section 104(k) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, including grants, interagency agreements, and associated program support costs: Provided, That not more than 25 percent of the amount appropriated to carry out section 104(k) of CERCLA shall be used for site characterization, assessment, and remediation of facilities described in section 101(39)(D)(ii)(II) of CERCLA.

Issuing grants for PM 2.5 monitoring network under Clean Air Act sections 103 and 105

Per the Consolidated Appropriations Act, 2016 (P.L. 114-113), the EPA is directed to use section 103 of the Clean Air Act to provide grants to states for the PM 2.5 monitoring network. Accordingly, in FY 2016, the EPA continues to issue grants to states for the network exclusively under section 103. The EPA requests the flexibility to use both section 103 and 105 authority under the Clean Air Act to issue grants to states for the PM 2.5 monitoring network.

\$1,158,400,000 shall be for grants, including associated program support costs, to States, federally recognized tribes, interstate agencies, tribal consortia, and air pollution control agencies for multi-media or single media pollution prevention, control and abatement and related activities, including activities pursuant to the provisions set forth under this heading in [Public Law 104-134](#), and for making grants under sections 103 and 105 of the Clean Air Act for particulate matter monitoring and data collection activities subject to terms and conditions specified by the Administrator.

Current statutory language directs the EPA to issue grants in support of the PM 2.5 monitoring under section 103 of the Clean Air Act. However, given the maturity of the PM 2.5 monitoring network, it is appropriate for the EPA to provide grants to states to fund the network under section 105 of the Clean Air Act. The PM 2.5 monitoring network is a continuing activity in support of air quality management, which aligns with authorized activities under section 105, whereas section

103 is intended to fund research, demonstration, and other similar activities. The proposed language gives the agency more flexibility to award grants under section 103 and 105 authority. The Clean Air Act 105 authority provides for cost-sharing between the EPA and the states with up to 60 percent of costs provided by the EPA.

Great Lakes Restoration Initiative: Grant Authority

The FY 2016 Consolidated Appropriations Act permanently authorized GLRI by amending Sec. 118 of the Clean Water Act. However, this authorization did not contain necessary grant making authority. The proposed language will give EPA the authority to issue grants to implement the GLRI and the Great Lakes Water Quality Agreement in FY 2017.

The Administrator is authorized to make grants from the funds appropriated for the Great Lakes Restoration Initiative under the heading “Environmental Programs and Management” to governmental entities, nonprofit organizations, and institutions for planning, research, monitoring, outreach, and implementation in furtherance of section 118(c)(7) of the Federal Water Pollution Control Act (33 U.S.C. 1286(c)(7)).

**ATTORNEY FEE AND COST PAYMENTS OBLIGATED IN FY 2015 UNDER EQUAL ACCESS FOR JUSTICE ACT (EAJA)
as a Result of Defensive Environmental Litigations under Environmental Statutes**

Date of Final fee agreement or court disposition	Case Name	Court	Case Number	Judge	Case Disposition	Amount of Fees and/or Costs Paid	Source of Funds	Was amount negotiated or court ordered?	Recipients	Nature of Case
12/02/2014	Florida Wildlife Federation v. EPA	M.D. Florida	8:13-cv-2084-SDM-EAJ (M.D. Fla)	Steven D. Merryday and referred to Magistrate Judge Elizabeth A. Jenkins	Case Settled	\$51,919.00	EPA Appropriations	Negotiated in context of a settlement agreement	Thomas Reese representing Florida Wildlife Federation	Plaintiff's challenged the EPA's approval of Florida's 2009 Group 5 list for failure to consider whether waters should be listed for not meeting the state's antidegradation requirements and water quality standards.
03/10/2015	Sierra Club and Environmental Integrity Project v. EPA	US District Court, N. District of CA	C-3:11-0846-MEJ	Maria-Elena James	Settlement Ordered	\$75,000.00	EPA Appropriations	Court Ordered Settlement	Sierra Club and Environmental Integrity Project	Alleged violation of Freedom of Information Act
05/05/2015	Lois Alt v. EPA	N.D. W.Va.	90-345	John Preston Bailey	Settlement Agreement	\$30,000.00	EPA Appropriations	Negotiated in context of a settlement agreement	West Virginia Farm Bureau, INC.	Plaintiff sought declaratory relief in connection with the EPA's administrative enforcement proceedings
06/24/2015	U.S.A v. Gadsden Industrial Park, LLC	N.D. Ala.	4:14-cv-00992-KOB	Karon Owen Bowdre	Settlement Agreement	\$76,560.00	EPA Appropriations	Negotiated in context of a settlement agreement	Gadsden Industrial Park, LLC	The Defendant's petition followed the dismissal of the EPA's CERCLA cost recovery claim against Gadsden Industrial Park
07/01/2015	Landmark Legal Foundation v. EPA	US District Court, for District of Columbia	1:12-cv-01726-RCL	Royce C. Lamberth	Settlement Agreement	\$313,000.00	EPA Appropriations	Court ordered after litigation of fees	Landmark Legal Foundation	Alleged violation of Freedom of Information Act

Date of Final fee agreement or court disposition	Case Name	Court	Case Number	Judge	Case Disposition	Amount of Fees and/or Costs Paid	Source of Funds	Was amount negotiated or court ordered?	Recipients	Nature of Case
09/30/2015	Conservation Law Foundation v. EPA	US District Court, for District of MA	1:13-cv-12704-MLW & 1:11-cv-11657-MLW	Malcolm Wolff	Settlement Agreement	\$40,064.00	Judgment Fund	Court Ordered Settlement	Conservation Law Foundation	Plaintiff's claim that the EPA's approval of 13 "total maximum daily loads" for the nitrogen pollution in Cape Cod embayment was arbitrary and capricious under the Administrative Procedure Act

FISCAL YEAR 2017: CONSOLIDATIONS, REALIGNMENTS, OR OTHER TRANSFERS OF RESOURCES

This table shows consolidations, realignments, or other transfers of resources and personnel from one program/project to another in order to clearly illustrate a transfer of FY 2017 resources (Dollars in Thousands).

Program/ Project	Total Fund Transferred From:	FTE Transferred From:	Total Fund Transferred To:	FTE Transferred To:	Purpose
EPM: Central Planning, Budgeting, and Finance	(\$629)				A realignment of funds for the Environmental Finance Center from EPM: Central Planning, Budgeting, and Finance to EPM: Drinking Water and EPM: Surface Water Protection programs to better support water infrastructure investments.
EPM: Drinking Water Programs			\$315		
EPM: Surface Water Protection			\$314		
EPM: Surface Water Protection	(\$2,200)	(8.0)			This realignment centralizes funding for Water Infrastructure Finance and Innovation activities in a newly created account for WIFIA.
WF: Water Infrastructure Finance and Innovation			\$2,200	8.0	
SF: Audits, Evaluation, and Investigations	(\$786)				A realignment from Superfund to IG account to provide additional flexibility in prioritizing audit activities.
IG: Audits, Evaluation, and Investigations			\$786		
LUST: LUST Prevention	(\$1,000)				This realignment from LUST to STAG for a three year period for states to revise state regulations, apply for state program approval (SPA), and adopt the new federal regulations that were promulgated in July 2015.
STAG: Categorical Grants: Underground Storage Tanks			\$1,000		
S&T: Water Quality Research and Support Grants	(\$622)	(4.0)			A realignment of resources and FTE to further support testing at the agency's National Vehicle and Fuel Emissions Laboratory to ensure compliance with emissions standards.
S&T: Federal Vehicles and Fuels Standards and Certification			\$622	4.0	

PHYSICIANS' COMPARABILITY ALLOWANCE (PCA) WORKSHEET FOR BY 2017

**Environmental Protection Agency
Table 1**

	PY 2015 (Actual)	CY 2016 (Estimates)	BY 2017 (Estimates)
1) Number of Physicians Receiving PCAs	4	4	4
2) Number of Physicians with One-Year PCA Agreements	0	0	0
3) Number of Physicians with Multi-Year PCA Agreements	4	4	4
4) Average Annual PCA Physician Pay (without PCA payment)	\$136,588	\$137,954	\$139,334
5) Average Annual PCA Payment	\$24,917	\$24,917	\$24,917
6) Number of Physicians Receiving PCAs by Category (non-add)	Category I Clinical Position		
	Category II Research Position	4	4
	Category III Occupational Health	0	0
	Category IV-A Disability Evaluation		
	Category IV-B Health and Medical Admin.		

7) If applicable, list and explain the necessity of any additional physician categories designated by your agency (for categories other than I through IV-B). Provide the number of PCA agreements per additional category for the PY, CY and BY.

The EPA expects no additional categories to be applicable in the foreseeable future.

8) Provide the maximum annual PCA amount paid to each category of physician in your agency and explain the reasoning for these amounts by category.

The maximum allowance being paid to a Category II Research Position is \$29,900.

9) Explain the recruitment and retention problem(s) for each category of physician in your agency (this should demonstrate that a current need continues to persist).

(Please include any staffing data to support your explanation, such as number and duration of unfilled positions and number of accessions and separations per fiscal year.)
Historically, the small number of the EPA Research Physicians varies between five and seven positions. This small population experiences modest turnover. Therefore, the value of the physicians' comparability allowance to the EPA is as a retention tool.

10) Explain the degree to which recruitment and retention problems were alleviated in your agency through the use of PCAs in the prior fiscal year.

(Please include any staffing data to support your explanation, such as number and duration of unfilled positions and number of accessions and separations per fiscal year.)
We are told regularly that absent the allowance, some EPA research physicians would seek employment at federal agencies that provide the allowance.

11) Provide any additional information that may be useful in planning PCA staffing levels and amounts in your agency.

An agency with a very small number of physician positions and a low turn-over rate among them still needs the allowance authority to maintain the stability of the small population. Those who opt for federal employment in opposition to private sector employment still want the maximum pay available in the federal sector. Therefore, were it not for the PCA, the EPA would regularly lose some of its physicians to other federal agencies that offer the allowance, thereby necessitating the refilling of vacant positions. Therefore, turn-over statistics should be viewed in this light.

EPA BUDGET BY NATIONAL PROGRAM MANAGER AND MAJOR OFFICE

Dollars in Thousands

NPM	Major Office	FY 2016 Enacted				FY 2017 President's Budget ²			
		Pay (\$K)	Non-Pay (\$K)	Total (\$K)	FTE	Pay (\$K)	Non-Pay (\$K)	Total (\$K)	FTE
OA	Immediate Office	\$3,627.0	\$515.0	\$4,142.0	23.8	\$3,635.0	\$608.0	\$4,243.0	23.8
	Office of Congressional and Intergovernmental Relations	\$7,357.0	\$206.0	\$7,563.0	51.6	\$7,731.0	\$226.0	\$7,957.0	51.6
	Office of Public Affairs	\$5,818.0	\$147.0	\$5,965.0	38.9	\$5,828.0	\$447.0	\$6,275.0	38.9
	Office of Public Engagement	\$1,795.0	\$0.0	\$1,795.0	12.0	\$1,797.0	\$0.0	\$1,797.0	12.0
	Office of Policy	\$23,844.0	\$3,733.0	\$27,577.0	140.9	\$24,589.0	\$23,441.0	\$48,030.0	140.9
	Children's Health Protection	\$2,515.0	\$2,773.0	\$5,288.0	15.4	\$2,672.0	\$3,803.0	\$6,475.0	15.4
	Environmental Education	\$875.0	\$7,137.0	\$8,012.0	6.1	\$1,142.0	\$9,300.0	\$10,442.0	7.0
	Office of Civil Rights	\$5,268.0	\$1,020.0	\$6,288.0	36.6	\$5,544.0	\$2,783.0	\$8,327.0	36.6
	Executive Secretariat	\$2,184.0	\$42.0	\$2,226.0	14.6	\$2,188.0	\$124.0	\$2,312.0	14.6
	Executive Services	\$2,829.0	\$2,907.0	\$5,736.0	18.9	\$2,833.0	\$589.0	\$3,422.0	18.9
	Homeland Security	\$1,945.0	\$405.0	\$2,350.0	9.7	\$1,948.0	\$826.0	\$2,774.0	9.7
	Science Advisory Board	\$3,186.0	\$644.0	\$3,830.0	21.6	\$3,572.0	\$1,884.0	\$5,456.0	21.6
	Small and Disadvantaged Business Utilization	\$1,744.0	\$1,063.0	\$2,807.0	11.3	\$1,748.0	\$1,627.0	\$3,375.0	11.3
	OAR	Regional Resources	\$27,173.0	\$2,673.0	\$29,846.0	190.9	\$27,941.0	\$4,874.0	\$32,815.0
Reserves		\$189.0	\$47.0	\$236.0	0.0	\$450.0	\$0.0	\$450.0	0.0
TOTAL		\$90,349.0	\$23,312.0	\$113,661.0	592.3	\$93,618.0	\$50,532.0	\$144,150.0	593.2
		\$10,067.0			62.5	\$10,408.0			62.5
Immediate Office			\$11,697.0	\$21,764.0			\$20,938.0	\$31,346.0	
OARM	Office of Air Quality Planning and Standards	\$50,616.0	\$18,873.0	\$69,489.0	349.6	\$52,310.0	\$46,385.0	\$98,695.0	349.6
	Office of Atmospheric Programs	\$36,271.0	\$76,244.0	\$112,515.0	233.7	\$39,753.0	\$92,227.0	\$131,980.0	246.7
	Office of Transportation and Air Quality	\$52,027.0	\$55,841.0	\$107,868.0	353.2	\$55,643.0	\$59,450.0	\$115,093.0	357.2
	Office of Radiation and Indoor Air	\$22,297.0	\$15,820.0	\$38,117.0	144.8	\$23,159.0	\$18,349.0	\$41,508.0	144.8
	Regional Resources	\$83,210.0	\$344,406.0	\$427,616.0	604.8	\$88,287.0	\$295,860.0	\$384,147.0	610.8
	Reserves	\$300.0	\$452.0	\$752.0	0.0	\$950.0	\$100.0	\$1,050.0	0.0
	TOTAL	\$254,788.0			1,748.6	\$270,510.0			1,771.6

			\$523,333.0	\$778,121.0			\$533,309.0	\$803,819.0	
Immediate Office	\$5,806.0	\$24,542.0	\$30,348.0	45.0	\$7,523.0	\$27,060.0	\$34,583.0	45.0	
Office of Diversity Advisory Committee Management and Outreach ¹	\$0.0	\$0.0	\$0.0	0.0	\$0.0	\$0.0	\$0.0	0.0	
Administrative Law Judges	\$2,265.0	\$233.0	\$2,498.0	13.5	\$2,276.0	\$193.0	\$2,469.0	13.5	
Environmental Appeals Board	\$2,069.0	\$207.0	\$2,276.0	12.3	\$2,073.0	\$168.0	\$2,241.0	12.3	
Office of Acquisition Management	\$30,471.0	\$10,138.0	\$40,609.0	216.0	\$32,189.0	\$14,744.0	\$46,933.0	216.0	
Office of Administration	\$17,459.0	\$334,363.0	\$351,822.0	98.8	\$21,384.0	\$359,670.0	\$381,054.0	98.8	
Office of Human Resources	\$18,942.0	\$10,550.0	\$29,492.0	100.9	\$21,159.0	\$12,238.0	\$33,397.0	100.9	
Office of Grants & Debarment	\$10,309.0	\$5,888.0	\$16,197.0	73.0	\$11,054.0	\$8,284.0	\$19,338.0	73.0	
OARM RTP	\$9,809.0	\$30,811.0	\$40,620.0	84.9	\$10,432.0	\$34,379.0	\$44,811.0	84.9	
OARM Cincinnati Office	\$9,327.0	\$15,606.0	\$24,933.0	76.7	\$10,261.0	\$15,894.0	\$26,155.0	76.7	
Regional Resources	\$53,118.0	\$43,269.0	\$96,387.0	358.2	\$56,806.0	\$44,895.0	\$101,701.0	365.9	
Reserves	\$225.0	\$1,266.0	\$1,491.0	0.0	\$550.0	\$500.0	\$1,050.0	0.0	

		FY 2016 Enacted				FY 2017 President's Budget ²			
NPM	Major Office	Pay (\$K)	Non-Pay (\$K)	Total (\$K)	FTE	Pay (\$K)	Non-Pay (\$K)	Total (\$K)	FTE
OCFO	TOTAL	\$159,800.0	\$476,873.0	\$636,673.0	1,079.3	\$175,707.0	\$518,025.0	\$693,732.0	1,087.0
	Immediate Office	\$1,480.3	\$2,400.2	\$3,880.5	10.5	\$1,606.7	\$1,001.8	\$2,608.5	10.5
	Center for Environmental Finance	\$0.0	\$0.0	\$0.0	0.0	\$0.0	\$0.0	\$0.0	0.0
	Office of Budget	\$5,597.0	\$2,481.4	\$8,078.4	39.7	\$6,074.7	\$3,755.3	\$9,830.0	39.7
	Office of Planning, Analysis and Accountability	\$3,411.8	\$451.2	\$3,863.0	24.2	\$3,703.0	\$555.4	\$4,258.4	24.2
	Office of Financial Management	\$6,175.1	\$720.7	\$6,895.8	43.8	\$6,702.1	\$1,018.8	\$7,720.9	43.8
	Office of Technology Solutions	\$5,061.3	\$22,865.1	\$27,926.4	35.9	\$5,493.3	\$24,250.5	\$29,743.8	35.9
	Office of Financial Services	\$19,075.0	\$2,396.8	\$21,471.8	135.3	\$20,703.0	\$5,609.9	\$26,312.9	135.3
	Office of Resource and Information Management	\$1,790.5	\$1,556.6	\$3,347.1	12.7	\$1,943.3	\$1,520.3	\$3,463.6	12.7
	OCFO eEnterprise	\$761.0	\$299.0	\$1,060.0	4.0	\$762.0	\$305.0	\$1,067.0	4.0
	Regional Resources	\$27,794.0	\$1,684.0	\$29,478.0	215.7	\$29,166.0	\$1,665.0	\$30,831.0	215.7
	Reserves	\$0.0	\$0.0	\$0.0	0.0	\$0.0	\$0.0	\$0.0	0.0
	TOTAL	\$71,146.0	\$34,855.0	\$106,001.0	521.8	\$76,154.0	\$39,682.0	\$115,836.0	521.8

OGC	Reserves	\$176.0	\$486.0	\$662.0	0.0	\$425.0	\$210.0	\$635.0	0.0
	TOTAL	\$65,637.0	\$114,104.0	\$179,741.0	441.8	\$70,771.0	\$150,494.0	\$221,265.0	441.8
OIG	Immediate Office	\$2,348.0	\$38.0	\$2,386.0	12.8	\$2,354.0	\$40.0	\$2,394.0	12.8
	Air and Radiation Law Office	\$8,711.0	\$17.0	\$8,728.0	50.3	\$9,217.0	\$38.0	\$9,255.0	50.3
	Pesticides and Toxic Substances Law Office	\$3,751.0	\$16.0	\$3,767.0	20.4	\$3,738.0	\$29.0	\$3,767.0	20.4
	Solid Waste and Emergency Response Law Office	\$2,561.0	\$25.0	\$2,586.0	13.7	\$2,566.0	\$32.0	\$2,598.0	13.7
	Water Law Office	\$3,944.0	\$205.0	\$4,149.0	21.7	\$4,020.0	\$183.0	\$4,203.0	21.7
	Other Legal Support	\$15,705.0	\$1,594.0	\$17,299.0	98.9	\$18,243.0	\$5,147.0	\$23,390.0	98.9
	Regional Resources	\$27,038.0	\$768.0	\$27,806.0	158.0	\$28,730.0	\$779.0	\$29,509.0	158.0
	Reserves	\$83.0	\$1.0	\$84.0	0.0	\$275.0	\$0.0	\$275.0	0.0
	TOTAL	\$64,141.0	\$2,664.0	\$66,805.0	375.8	\$69,143.0	\$6,248.0	\$75,391.0	375.8
	OITA	Immediate Office	\$610.1	\$152.8	\$762.9	3.2	\$678.8	\$274.9	\$953.7
Office of Audit		\$12,954.6	\$570.7	\$13,525.3	92.2	\$14,413.0	\$1,027.1	\$15,440.1	92.2
Office of Congressional, Public Affairs and Management		\$3,050.9	\$62.9	\$3,113.8	19.1	\$3,394.4	\$113.2	\$3,507.6	19.1
Office of Counsel				\$0.0				\$0.0	
Office of Chief of Staff		\$3,188.9	\$1,029.1	\$4,218.0	22.3	\$3,547.9	\$1,851.9	\$5,399.8	22.3
Office of Investigations		\$10,889.2	\$1,240.4	\$12,129.6	66.8	\$12,115.2	\$2,232.1	\$14,347.3	66.8
Office of Mission Systems		\$3,614.2	\$844.9	\$4,459.1	22.3	\$4,021.1	\$1,520.3	\$5,541.4	22.3
Office of Program Evaluation		\$12,626.1	\$593.2	\$13,219.3	92.2	\$14,047.6	\$1,067.5	\$15,115.1	92.2
Reserves		\$0.0	\$0.0	\$0.0	0.0	\$0.0	\$0.0	\$0.0	0.0
TOTAL		\$46,934.0	\$4,494.0	\$51,428.0	318.1	\$52,218.0	\$8,087.0	\$60,305.0	318.1
OLEM	Immediate Office	\$1,052.1	\$55.0	\$1,107.1	6.0	\$1,104.7	\$55.0	\$1,159.7	6.0
	Office of Regional and Bilateral Affairs	\$3,701.9	\$2,650.0	\$6,351.9	23.7	\$3,850.3	\$2,770.0	\$6,620.3	23.7
	Office of Global Affairs and Policy	\$3,009.9	\$220.0	\$3,229.9	18.6	\$3,160.3	\$300.0	\$3,460.3	18.6
	Office of Management and International Services	\$1,884.4	\$865.0	\$2,749.4	13.0	\$1,978.6	\$916.0	\$2,894.6	13.0
	American Indian Environmental Office	\$2,785.8	\$857.0	\$3,642.8	19.0	\$2,925.1	\$1,903.0	\$4,828.1	19.0
	Regional Resources	\$11,218.0	\$66,314.0	\$77,532.0	78.5	\$11,301.0	\$99,537.0	\$110,838.0	78.5
	Reserves	\$50.0	\$598.0	\$648.0	0.0	\$125.0	\$50.0	\$175.0	0.0

		TOTAL	\$23,702.0	\$71,559.0	\$95,261.0	158.8	\$24,445.0	\$105,531.0	\$129,976.0	158.8
		Immediate Office	\$7,674.0	\$5,077.0	\$12,751.0	45.2	\$7,784.0	\$5,541.0	\$13,325.0	45.2
		Federal Facilities Restoration and Reuse Office	\$2,184.0	\$890.0	\$3,074.0	13.2	\$2,189.0	\$1,924.0	\$4,113.0	13.2
				FY 2016 Enacted			FY 2017 President's Budget²			
NPM	Major Office	Pay (\$K)	Non-Pay (\$K)	Total (\$K)	FTE	Pay (\$K)	Non-Pay (\$K)	Total (\$K)	FTE	
	Office of Communication, Partnership, and Analysis	\$2,134.0	\$1,548.0	\$3,682.0	15.3	\$2,663.0	\$1,751.0	\$4,414.0	15.3	
	Office of Superfund Remediation and Technology Innovation	\$24,515.0	\$69,813.0	\$94,328.0	147.0	\$24,873.0	\$72,756.0	\$97,629.0	147.0	
	Office of Resource Conservation and Recovery	\$24,841.0	\$11,834.0	\$36,675.0	165.9	\$26,757.0	\$17,668.0	\$44,425.0	167.9	
	Office of Underground Storage Tanks	\$3,985.0	\$2,872.0	\$6,857.0	25.5	\$4,245.0	\$2,522.0	\$6,767.0	25.5	
	Office of Brownfields and Land Revitalization	\$2,754.0	\$12,708.0	\$15,462.0	19.5	\$3,204.0	\$15,615.0	\$18,819.0	19.5	
	Office of Emergency Management	\$11,544.0	\$31,268.0	\$42,812.0	69.1	\$11,950.0	\$38,851.0	\$50,801.0	69.1	
	Regional Resources	\$262,806.0	\$755,962.0	\$1,018,768.0	1,814.8	\$268,962.0	\$792,944.0	\$1,061,906.0	1,814.3	
	Reserves	\$348.0		\$2,682.0	0.0	\$945.0	\$200.0	\$1,145.0		
	TOTAL	\$342,785.0		\$1,237,091.0	2,315.5	\$353,572.0	\$949,772.0	\$1,303,344.0		
		\$34,134.0	\$2,334.0		318.3	\$33,843.0	\$55,879.0	\$89,722.0		
	ORD Headquarters		\$57,895.0	\$92,029.0					2,317.0 316.3	
	National Center for Environmental Research	\$8,815.0	\$56,358.0	\$65,173.0	52.7	\$8,920.0	\$52,705.0	\$61,625.0	53.7	
	National Exposure Research Laboratory	\$49,560.0	\$29,808.0	\$79,368.0	310.8	\$52,944.0	\$30,043.0	\$82,987.0	310.8	
	National Health and Environmental Effects Research Laboratory	\$70,869.0	\$46,703.0	\$117,572.0	473.7	\$74,684.0	\$45,250.0	\$119,934.0	473.7	
	National Homeland Security Research Center	\$6,813.0	\$12,869.0	\$19,682.0	41.7	\$7,244.0	\$11,504.0	\$18,748.0	43.7	
	National Risk Management Research Laboratory	\$41,479.0	\$30,076.0	\$71,555.0	272.0	\$42,565.0	\$27,497.0	\$70,062.0	272.0	
	Office of the Science Advisor	\$3,332.0	\$3,401.0	\$6,733.0	18.0	\$3,480.0	\$3,238.0	\$6,718.0	18.0	
	National Center for Computational Toxicology	\$5,261.0	\$10,031.0	\$15,292.0	35.5	\$5,377.0	\$10,320.0	\$15,697.0	34.5	
	National Center for Environmental Assessment	\$29,368.0	\$15,620.0	\$44,988.0	181.2	\$30,656.0	\$14,684.0	\$45,340.0	181.2	
	Reserves	\$425.0	\$505.0	\$930.0	0.0	\$1,140.0	\$0.0	\$1,140.0	0.0	
	TOTAL	\$250,056.0		\$930.0	1,703.9	\$260,853.0	\$251,120.0	\$511,973.0	1,703.9	
			\$263,266.0	\$513,322.0						
	Immediate Office	\$10,732.0	\$5,935.0	\$16,667.0	66.0	\$10,776.0	\$9,382.0	\$20,158.0	66.0	
OW	Office of Ground Water and Drinking Water	\$25,359.0	\$39,963.0	\$65,322.0	166.0	\$26,062.0	\$39,515.0	\$65,577.0	166.0	

	Office of Science and Technology	\$18,668.0	\$16,491.0	\$35,159.0	113.3	\$18,968.0	\$20,087.0	\$39,055.0	113.3
	Office of Wastewater Management	\$17,872.0	\$16,704.0	\$34,576.0	119.0	\$20,472.0	\$47,722.0	\$68,194.0	123.0
	Office of Wetlands, Oceans and Watersheds	\$17,982.0	\$22,829.0	\$40,811.0	114.1	\$19,105.0	\$31,827.0	\$50,932.0	114.1
	Regional Resources	\$189,723.0	\$3,216,535.0	\$3,406,258.0	1,343.4	\$194,046.0	\$2,931,051.0	\$3,125,097.0	1,343.2
	Reserves	\$315.0		\$26,823.0	0.0			\$901.0	0.0
	TOTAL	\$280,651.0		\$3,625,616.0	1,921.8	\$651.0	\$250.0	\$901.0	1,925.6
			\$26,508.0			\$290,080.0	\$3,079,834.0	\$3,369,914.0	
			\$3,344,965.0						
	Subtotal Agency Resources	\$2,247,308.0	\$5,932,579.0	\$8,179,887.0	15,031.3	\$2,351,866.0	\$5,915,333.0	\$8,267,199.0	15,078.2
	Less Rescission of Prior Year Funds			(\$40,000.0)					
	Reimbursable FTE				345.0				338.0
	Total Agency Resources	\$2,247,308.0	\$5,932,579.0	\$8,139,887.0	15,376.3	\$2,351,866.0	\$5,915,333.0	\$8,267,199.0	15,416.2

1 The Office of Diversity Advisory Committee Management and Outreach was integrated into the Office of Human Resources and OARM's Immediate Office in FY 2016.

2 Discretionary Resources Only