OFFICE OF INSPECTOR GENERAL

Catalyst for Improving the Environment

Evaluation Report

Summary of Recent Developments in EPA's Drinking Water Program and Areas for Additional Focus

Report No. 08-P-0120

March 31, 2008

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Abbreviations

ASDWA	Association of State Drinking Water Administrators
CCL	Contaminant Candidate List
DWSRF	Drinking Water State Revolving Fund
EPA	U.S. Environmental Protection Agency
GAO	Government Accountability Office
NDWAC	National Drinking Water Advisory Council
OECA	Office of Enforcement and Compliance Assurance
OGWDW	Office of Ground Water and Drinking Water
OIG	Office of Inspector General
ORD	Office of Research and Development
PWSS	Public Water System Supervision
SCADA	Supervisory Control and Data Acquisition
SDWA	Safe Drinking Water Act
SDWIS	Safe Drinking Water Information System
SWP	Source Water Protection
UIC	Underground Injection Control

Cover photo: Several children drinking water (EPA photo).

U.S. Environmental Protection Agency
Office of Inspector General

08-P-0120
March 31, 2008

At a Glance

Catalyst for Improving the Environment

Why We Did This Review

We conducted a review of the U.S. Environmental Protection Agency's (EPA's) drinking water program at the request of its Office of Ground Water and Drinking Water (OGWDW) to:

- Summarize findings and recommendations from recent drinking water program-related evaluation reports by the EPA Office of Inspector General (OIG) and others, and determine whether EPA has initiated actions in response;
- Track significant program developments; and
- Identify challenges to help focus future evaluation efforts.

Background

OGWDW, along with EPA's 10 regional drinking water programs, oversees implementation of the Safe Drinking Water Act for the Nation's 156,000 public water systems. OGWDW is primarily responsible for setting and enforcing drinking water regulations and assisting and overseeing State programs.

For further information, contact our Office of Congressional and Public Liaison at (202) 566-2391.

To view the full report, click on the following link:
www.epa.gov/oig/reports/2008/20080331-08-P-0120.pdf

Summary of Recent Developments in EPA's Drinking Water Program and Areas for Additional Focus

What We Found

OGWDW addressed or is addressing all of the EPA OIG drinking water program-related evaluation report recommendations made from September 2003 to May 2007. OGWDW also took action on prior report suggestions.

Many parts of EPA's drinking water program experienced significant developments since 2003. These included:

- Rule developments or revisions
- Performance measure development
- Drinking water security
- Source water protection
- Capacity development
- Sustainable infrastructure
- Underground injection control
- Logic model development
- State oversight
- Analytical methods development

We also noted a number of Agency actions related to recommendations in U.S. Government Accountability Office and other evaluation reports.

Still, the drinking water program faces challenges, notably limited resources, emerging contaminants and new regulations, and system security issues. We suggest future evaluations for several areas of the drinking water program. These reviews should allow EPA to determine how well its programs are working and help it direct resources toward its most pressing needs. Priority should be given to: water security-response capability, chemical security at drinking water facilities, variances/exemptions and waivers, effectiveness of Agency funding, and the contaminant selection process. Other areas meriting review include: inter-program linkages, Underground Injection Control-Class V wells, transient and non-transient non-community water systems, and the recent modernization of the Safe Drinking Water Information System. Although we are making these suggestions for focus, we make no recommendations in this report.

In its response, EPA agreed with our assessment.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
INSPECTOR GENERAL

March 31, 2008

MEMORANDUM

SUBJECT: Summary of Recent Developments in EPA's Drinking Water Program and Areas for Additional Focus
Report No. 08-P-0120

FROM: Wade T. Najjum
Assistant Inspector General
Office of Program Evaluation

TO: Benjamin Grumbles
Assistant Administrator, Office of Water

This is the final report summarizing recent developments in the Agency's drinking water program and areas for additional focus, conducted by the Office of Inspector General (OIG) of the U.S. Environmental Protection Agency. This evaluation represents the opinion of the OIG and does not necessarily represent the final EPA position. Final determinations on matters in this evaluation will be made by EPA managers in accordance with established resolution procedures.

The estimated cost of this project – calculated by multiplying the project's staff days by the applicable daily full cost billing rates in effect at this time – is $260,084.

Action Required

Since this report contains no recommendations, you are not required to respond to it. We have no objections to the further release of this report to the public. This report will be available at http://www.epa.gov/oig.

If you or your staff have any questions regarding this report, please contact me at 202-566-0830 or engelberg.dan@epa.gov; or Ira Brass, the Project Manager for this review, at brass.ira@epa.gov or 212-637-3057.

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Chapter 1
Introduction

Purpose

We conducted a review of the U.S. Environmental Protection Agency's (EPA's) drinking water program at the request of EPA's Office of Ground Water and Drinking Water (OGWDW). This review included:

- A summary of the findings and recommendations from recent evaluation reports by the EPA Office of Inspector General (OIG), Government Accountability Office (GAO), and others;
- Tracking of significant program developments; and
- Identifying challenges to help focus future evaluation efforts.

Background

OGWDW, along with EPA's 10 regional drinking water programs, oversees implementation of the Safe Drinking Water Act (SDWA) for the Nation's 156,000 public water systems. OGWDW, which is part of EPA's Office of Water, is primarily responsible for setting and enforcing drinking water regulations, as well as providing assistance and oversight for State programs. The Agency shares much of its drinking water protection responsibilities with States, tribes, and water systems. Forty-nine "primacy" States, all U.S. territories, and the Navajo Nation are authorized to operate the drinking water program on EPA's behalf. EPA administers the program directly in Wyoming, the District of Columbia, and most tribal nations.

OGWDW consists of three divisions: Standards and Risk Management, Water Security, and Drinking Water Protection. Responsibilities for each division follow.

Standards and Risk Management Division

Targeting and Analysis Branch – Develops different types of regulatory tools. These include drinking water treatment technologies, cost/benefit analysis, and techniques for contaminant identification and occurrence. The branch develops drinking water regulations for some chemical contaminants (e.g., radon, arsenic). The branch also oversees the process to identify new contaminants for potential regulation and to review existing regulations.

Technical Support Center – Helps develop and implement drinking water regulations. The center also develops analytical methods, and manages the

monitoring of unregulated contaminants and the drinking water laboratory certification program. The center supports the multi-stakeholder "Partnership for Safe Water" program and treatment plant optimization program.

Standards and Risk Reduction Branch – Develops drinking water regulations for contaminants such as microbials, disinfection byproducts, and other high-priority contaminants under the authority of SDWA Section 1412. The branch also helps determine the extent of contaminant occurrence in drinking water. The branch evaluates waterborne disease outbreaks and supports the development of public health risk models. The branch analyzes economic issues and tracks research relevant to drinking water regulations.

Water Security Division

Security Assistance Branch – Helps develop security-related tools and technical assistance. The branch manages Federal water security grants to water utilities, State agencies, and technical assistance providers. It also liaises with the Department of Homeland Security in support of Homeland Security Presidential Directive 7. The branch supervises EPA's collection of system vulnerability assessments and emergency response certifications, and develops outreach materials.

Threats Analysis, Prevention and Preparedness Branch – Develops tools and guidance for emergency response and incident planning. The branch also holds workshops on emergency response planning. In addition, it funds and manages the development of security-related research/technology tools. The branch supports the sector's response capabilities pursuant to Homeland Security Presidential Directive 9.

Drinking Water Protection Division

Protection Branch – Implements the Public Water System Supervision (PWSS) program. This program includes several smaller programs: operator certification, capacity development, small systems' technical assistance, chemical monitoring, and the tribal program.

Prevention Branch – Implements three programs:

- Source Water Protection (SWP) program (including wellhead protection and comprehensive State ground water protection)
- Sole Source Aquifer program
- Underground Injection Control (UIC) program

Infrastructure Branch – Manages the Safe Drinking Water Information System (SDWIS) and the Drinking Water State Revolving Fund (DWSRF) program. The branch also works to promote consumer awareness on drinking water issues through outreach efforts and the Internet.

Noteworthy Achievements

In the past several years, OGWDW made a significant number of changes to the drinking water program. We discuss these developments in detail in Chapter 3.

Scope and Methodology

We conducted our review from July to December 2007 in accordance with generally accepted government auditing standards, issued by the Comptroller General of the United States. We reviewed and summarized the findings and recommendations from prior drinking water program-related evaluation reports (April 2003 - May 2007) issued by the EPA OIG, GAO, and other agencies and non-governmental organizations. Appendix A lists these reports. Our review included an examination of applicable laws and regulations as well as Agency guidance. We also considered the findings of prior Program Assessment Rating Tool reviews.

We conducted interviews with representatives from EPA's Office of Water to obtain an understanding of recent OGWDW program actions and potential program challenges. We focused on cataloging program developments that occurred since 2003, not evaluating the effectiveness of Agency actions. We also consulted the States, chemical industry, and non-governmental organizations by interviewing representatives from the American Chemistry Council, American Water Works Association, Chlorine Institute, Ground Water Protection Council, Rural Community Assistance Partnership, Association of State Drinking Water Administrators, and National Drinking Water Advisory Council (NDWAC).

We obtained and reviewed the PWSS program logic model. We also reviewed OGWDW's implementation of prior OIG evaluation report recommendations. We did not conduct a comprehensive review of Agency actions that were related to GAO and other relevant report recommendations because these responses are not tracked in the same manner as Agency responses to OIG recommendations. Yet, we were often able to use readily available information to note a number of related Agency actions. Our consideration of Agency actions helped us determine future challenges for the drinking water program. We also applied our summary of report findings and recommendations to OGWDW's organizational chart as well as the principal outputs and outcomes in the logic model. From this, we identified potential areas for future evaluations. We reviewed those internal controls which were relevant to our objectives.

Chapter 2
EPA Addressing Prior Report Recommendations

We found that OGWDW had addressed, or is currently addressing, all recommendations made in drinking water program-related OIG evaluations issued between September 2003 and May 2007. OGWDW also took action on prior OIG report suggestions (e.g., the content of vulnerability assessments). The findings and recommendations in these OIG reports generally fall into seven areas:

- Performance assessment (i.e., the analysis of program results, measurement development, and implementation)
- Drinking water guidance, strategies, or regulations
- Outreach/communication
- Data quality concerns
- Public health concerns
- Resources (related to staffing, data, and infrastructure)
- Drinking water security concerns

Notable findings and recommendations are summarized below. Appendix B provides additional detail on the actions OGWDW has taken in response to each OIG report recommendation and suggestion. We incorporated any progress OGWDW has made regarding relevant recommendations in GAO and other evaluation reports into the activities listed in Chapter 3.

Performance Assessment

Findings and recommendations emphasized the need for OGWDW to develop a range of measurable program goals that assess specific program aspects, such as:

- Performance indicator development to support a baseline for drinking water security
- Periodic assessment of the laboratory certification program

Findings and recommendations also emphasized the need for OGWDW to create measures that capture program results and meet annual performance goals for:

- Drinking water quality
- Capacity development
- Source water assessments

Drinking Water Guidance, Strategies, or Regulations

This area highlights the development, appropriateness, and implementation of drinking water guidance, strategies, and regulations.

- EPA was to develop national strategies and assess implementing particular program aspects, such as capacity development, source water assessments, and drinking water quality analysis. The reports stressed identification and dissemination of best practices.
- The reports also recommended that EPA amend guidance or regulations in order to conduct more meaningful annual assessments (e.g., revising Title 40, Code of Federal Regulations, Section 35.3515 for capacity development) and increase program effectiveness.
- Vulnerability assessments were to adequately consider the threats envisioned by the Bioterrorism Act of 2002.

Outreach/Communication

This area involved how EPA provided drinking water information to the public, other government agencies, non-governmental organizations, and within EPA offices. Under consideration was:

- Developing and implementing communication approaches.
- Determining information dissemination relative to particular drinking water activities, and the extent of stakeholder involvement (e.g., community participation in the well construction permitting process).
- Determining the type and content of information to be shared (e.g., source water assessments, drinking water health risks, or drinking water affordability with the public; and source water area locations with officials), and information access (e.g., utility access to information on comprehensive asset management).
- Identifying partnership and coordination opportunities.

Data Quality Concerns

This area focused on the availability of data and data sources, and concerns about data quality. Recommendations to the Agency included:

- Determination of available data or information sources on capacity development, and modification of already existing data collection efforts or the development of new data collection processes.
- Data access for small and large water utilities on water security, perhaps through the Water Information Sharing and Analysis Center.
- Concerns about a large number of violations not being reported in the SDWIS-Federal Version (“SDWIS-Fed”).

- Education about the proper procedures to follow if a laboratory conducting drinking water sample analysis is suspected of inappropriate or fraudulent procedures.

Public Health Concerns

Findings and recommendations in this area focused on the fact that:

- Minimal data exists on health-related impacts.
- Vulnerabilities in the drinking water sample analysis process compromise laboratory and data integrity and increase public risk.
- Collaborative efforts between agencies could improve the identification of drinking water-related health outbreaks.

Resources

This area focused on the staffing, informational, and infrastructure resources that are, or should be, available for drinking water activities. In addition to the resource-related examples provided above, recommendations to the Agency included:

- Providing guidance to States on how to leverage technical, managerial, and financial resources from other Agency programs, partners, and stakeholders.
- Working with Congress to allow future DWSRF set-asides to be designated for source water protection, including both ground water and surface water sources, so that State drinking water programs have access to DWSRF funds.
- Improving coordination and access to initiatives and information on asset management within and across drinking water and wastewater programs to leverage limited resources, reduce the potential for duplication, and improve infrastructure management.

Drinking Water Security Concerns

In addition to the drinking water security issues discussed above in the area of performance assessment, drinking water guidance, and data quality, recommendations involved:

- Ensuring that small water utilities also have access to information provided by consultants to larger water utilities, and that all utilities have access to information on funding security enhancements.
- Helping water systems reduce or mitigate Supervisory Control and Data Acquisition vulnerabilities.
- Fostering collaboration between the Office of Water and the Office of Research and Development (ORD) on EPA's Research Action Plan. The recommendations focus on the Plan's treatment of utility vulnerability.

Chapter 3
Significant Developments Have Occurred in Drinking Water Program

The past 5 years (2003-2007) brought significant developments to many parts of EPA's drinking water program. The program issued new regulations, revised existing rules, and created new performance measures in several areas. Work also continues on at least three logic models, accompanying developments in the areas of drinking water security, SWP, UIC, and capacity development. While we did not formally evaluate the effectiveness of Agency actions, we noted progress in the data management arena, EPA's oversight of State primacy agencies, and development of analytical methods. The following examples illustrate the most significant developments.

Rule Developments or Revisions

Since January 2006, the Office of Water has issued several new drinking water guidance documents and regulations to improve the quality of drinking water:

- ***EPA Final Ground Water Rule****:* This rule aims to better protect public water systems that use ground water sources (ground water systems) from microbial pathogens.
- ***Lead and Copper Rule****:* In October 2007, EPA revised the existing national primary drinking water regulations for lead and copper. The Agency asserts that these revisions will: (1) enhance the implementation of the rule in the areas of monitoring, treatment, customer awareness, and lead service line replacement; and (2) improve compliance with the rule's public education requirements. The revisions should ensure that drinking water consumers receive the information they need to limit their exposure to lead in drinking water.
- ***Long Term 2 Enhanced Surface Water Treatment Rule*** and ***Stage 2 Disinfection Byproduct Rule*****:** Together, these constitute the second phase of congressionally-mandated EPA rules targeted at microbial pathogens and disinfection by-products. These rules strengthen protection against microbial contaminants, especially *Cryptosporidium*, while reducing the potential health risks associated with disinfection by-products.

EPA also recently revised several existing rules, even as it updated the Public Notification Rule to cover rules issued through July 1, 2006. Further, a Federal Advisory Committee continues to discuss revisions to the Total Coliform Rule.

Performance Measure Development

OGWDW developed additional performance measures that should enable it to better track the program's effectiveness in the following areas:

- ***Source Water Measures:*** EPA published guidance on SWP measures in March 2005.
- ***UIC Measures:*** OGWDW developed new UIC measures for Fiscal Years 2005 and 2006.
- ***Waterborne Illness Measure:*** This measure, presently under development, is to assess reduction in waterborne disease associated with improvements in drinking water safety. This is part of a larger effort to improve measuring public health benefits associated with drinking water regulations. EPA hopes to include the measure in its 2009-2013 Strategic Plan.

EPA is also developing a white paper on measures for both regulated pathogens and chemicals.

Drinking Water Security

EPA took many actions to improve the security of our Nation's drinking water supply and physical infrastructure. Some noteworthy developments include:

- ***Completion of Vulnerability Assessments/Emergency Response Plans:*** Nearly all of the drinking water utilities mandated to complete vulnerability assessments and Emergency Response Plans have done so, with technical and financial assistance provided by EPA.
- ***Activity Funding:*** EPA provided up to $115,000 initially for each utility serving more than 100,000 people to develop or revise its vulnerability assessment, emergency response, or operating plan; security enhancement plan and design; or a combination thereof. EPA has also provided at least $68.9 million for similar efforts at smaller utilities (serving populations of 3,301-100,000).
- ***Guidance Development:*** EPA published guidance for small, medium, and large water systems on completing their Emergency Response Plans.
- ***Tools/Technical Assistance:*** EPA provided various tools and technical assistance to the water sector. Examples include: water sector security workshops, a Water Contaminant Information Tool, Emergency Response Tabletop Exercises, Voluntary Water Infrastructure Security Enhancement Initiative, and a Water Information Sharing and Analysis Center.
- ***Measures:*** An OGWDW official reported that, in 2007, the Water Sector and Government Coordinating Councils formed a workgroup under the Critical Infrastructure Partnership Advisory Council process to develop a suite of national measures to assess progress the sector is making to enhance security and reduce risk. Based on the results of the workgroup,

the Water Critical Infrastructure Partnership Advisory Council approved the use of 22 utility measures, which include 3 hazardous chemical measures and 3 risk reduction measures, and approved 18 "other actor" measures for reporting by non-utilities such as EPA, the Department of Homeland Security, and State government agencies. Utilities also obtained 12 optional measures for use in self-assessments of risk reduction.

Source Water Protection

OIG analysis of EPA water system data showed that over 98 percent of the Nation's public water systems completed their required source water assessments. Such progress accompanied many other developments in SWP:

- ***Source Water Collaborative****:* EPA joined 13 other national organizations in committing to work together on SWP. The collaborative pledges to encourage actions that:
  (1) Contain or prevent contaminants, including pesticides, fertilizer, industrial waste, petroleum by-products, and other runoff, from reaching the sources of drinking water.
  (2) Promote development patterns that limit threats to the integrity of lakes, rivers, ground water, water recharge areas, or other sources of drinking water.
  (3) Encourage matching uses of land with locations least likely to affect current or future sources of drinking water.
  (4) Preserve the land needed to protect the quality of current and future sources of drinking water.
- ***Coordination with Clean Water Act Programs****:* OGWDW works with its partners to develop tools and training for local communities. Between January and March 2006, the program worked with the Association of Metropolitan Water Agencies on three SWP-related webcasts (Monitoring and Data Sharing; Land Development and Growth; and Communication, Regulatory, and Non-regulatory Tools). The SWP program also provided assistance to the Clean Water Fund, Campaign for Safe and Affordable Drinking Water, and Clean Water Network to develop a Community SWP Initiative. As part of the initiative, six workshops took place throughout the country in 2003-2004 to discuss tools to protect source water. A Stewardship Guide was also developed to help communities plan for protection. In 2007, EPA awarded grants to the Trust for Public Land, in partnership with the Association of State Drinking Water Administrators (ASDWA), the River Network, and the Smart Growth Leadership Institute, to enhance source water protection at the local and watershed levels by encouraging more effective collaboration and better harmony between various State policies and programs.
- ***Regional Workshops***: EPA's regional offices have held workshops on SWP-related issues. Region 1 held three SWP workshops between April

and June 2007, while Region 2 held a session aimed at local SWP efforts on May 24, 2007. Some of these workshops focused on local units of government, while others were directed toward State-level program implementation. Region 10's April 2005 workshop concentrated on SWP coordination between EPA and other Federal agencies, namely the Bureau of Land Management and U.S. Forest Service.

- ***Enhanced Coordination with the National Rural Water Association****:* EPA works to ensure that the association's grants have a consistent communication/coordination protocol and clear roles for States, rural field staff, and EPA project officers. In addition, rural water specialists are now invited to attend State meetings, providing them opportunities to network with State and Federal agencies.
- ***Underground Storage Tanks:*** A number of State and regional efforts took place under the 2004 memorandum of understanding between OGWDW and Office of Underground Storage Tanks. Such efforts included: more regions targeting tanks in SWP areas for inspection, and SWP/Underground Storage Tank programs engaging in joint outreach efforts. Additionally, some of the 2005 Energy Policy Act's provisions, such as the requirement for secondary containment, may hold promise for future source water assessment and protection efforts. Underground storage tanks can leak petroleum or other hazardous substances into underground sources of drinking water.

Capacity Development

OGWDW's recent capacity development efforts aim to ensure that States continue to provide sufficient managerial and financial assistance to public water systems. Capacity development is a way of structuring drinking water protection programs to assist water systems in attaining the technical, managerial, and financial capacity to achieve and maintain long-term sustainability. Efforts include:

- ***Capacity Development Evaluation Tool****:* In November 2007, the Office of Water released the Capacity Development Evaluation Tool, to help regions evaluate State capacity development programs. OGWDW expects that the Tool will assist in the implementation of the National Capacity Development Strategic Plan.
- ***Strategic Plan:*** The Office of Water published a National Capacity Development Strategic Plan in January 2008.

Sustainable Infrastructure

EPA has committed to promote practices that help reduce the potential gap between funding needs and spending at the local and national levels. The Office of Water has identified "four pillars" of actions to support such sustainable infrastructure at both wastewater and drinking water facilities. Recent developments under each of the four pillars include:

- ***Enhancing Utility Management****:* In cooperation with other organizations, EPA issued reports on recent water utility asset management efforts. The Office of Water's Better Management Website contains links to documents and additional Web pages aimed at improving management practices within the water sector. In 2006, the Office of Water also entered into a memorandum of understanding with the Federal Highway Administration on asset management issues.
- ***Saving Water Through Efficiency Measures***: EPA established the national "Alliance for Water Efficiency." Headquartered in Chicago, it serves as a clearinghouse and advocate for water efficiency research, evaluation, and education. EPA also established the "WaterSense" program to help consumers choose more water-efficient products.
- ***Using the Watershed Approach to Foster Intra-Agency Collaboration****:* The Office of Water works with EPA's Environmental Finance Advisory Board and Environmental Finance Centers to develop tools, case studies, and demonstration projects on innovative watershed-based financing strategies.
- ***Including the Full Cost of Water in Utility Rates****:* EPA issued case studies on full cost pricing.

Underground Injection Control

SDWA charges EPA with regulating underground injection of waste to prevent contamination of underground sources of drinking water. Since 2003, the Agency took several actions on UIC-related matters:

- ***Hydraulic Fracturing:*** Although hydraulic fracturing has been exempt from SDWA regulation since August 2005, it was the subject of an earlier Agency report. Hydraulic fracturing involves injecting fluid, under pressure, to facilitate the extraction of methane gas from coal seams. In June 2004, EPA published its evaluation of hydraulic fracturing impacts to underground sources of drinking water. In it, EPA determined that the injection of hydraulic fracturing fluids into coalbed methane wells poses little or no threat to underground sources of drinking water, and no further study was warranted. EPA did, however, pursue a voluntary agreement to cease the direct injection of diesel fuel into underground sources of drinking water for coalbed methane production. EPA finalized this agreement with three large hydraulic fracturing firms in December 2003.
- ***Geologic Sequestration:*** EPA began to develop a framework to manage the underground injection of carbon dioxide (i.e., geologic sequestration) under the UIC program. Specifically:
    - **Sequestration (Technical Guidance):** The Agency issued technical guidance on pilot geologic sequestration projects. The March 2007 guidance provides permit writers with information on permitting

experimental geologic sequestration wells as UIC Class V experimental wells.

New UIC Program Regulations: On October 11, 2007, EPA announced that it plans to propose new UIC program regulations by July 2008. To expedite the development of these regulations, OGWDW made geologic sequestration one of its top priorities for Fiscal Year 2008. The regulations aim to ensure that there is a consistent and effective permit system for commercial-scale geologic sequestration projects.

- ***Class I Municipal Disposal Wells:*** Class I wells inject hazardous and non-hazardous waste into deep rock formations, often thousands of feet below underground sources of drinking water. Florida uses Class I municipal disposal wells as an alternative to surface disposal of treated domestic wastewater. On November 22, 2005, the *Federal Register* published a revision to the Federal UIC requirements for Florida's Class I municipal disposal wells. The revision allowed some wastewater facilities to continue injecting treated domestic wastewater into the subsurface, provided they first treated it more extensively than they did before. According to the Agency's economic analysis, the rule change will save affected facilities $104.5 million in capital costs.
- ***Drinking Water Treatment Residuals:*** These residuals form when water treatment facilities use advanced treatment processes to remove such contaminants as arsenic or radionuclides. Injection wells are increasingly being used as a means of disposal for the concentrated salts, metals, and radioactive and/or hazardous materials that treatment processes leave behind. In January 2007, the UIC National Technical Workgroup issued its report on injection disposal of these residuals. The workgroup made a number of technical recommendations aimed at bolstering the UIC program's management of injected residual wastes.
- ***National UIC Database:*** In December 2007, OGWDW announced the launch of a National UIC Database. Once it is fully populated, the database will provide EPA with the inventory, compliance, and enforcement information it needs to manage the national program. OGWDW expects that the database will be particularly useful for future oversight of geologic sequestration activities. It also hopes that the database will eventually reduce the existing reporting burden on States and EPA regions.

Logic Model Development

Logic models provide both EPA and the States with roadmaps they can use to assess their efforts toward meeting key program performance measures. The logic model is a visual flowchart framework that is designed to help EPA and the States understand, measure, assess, and communicate program progress. Logic models contain a textual description of program inputs, activities, outputs, and

short/medium/long-term outcomes. In 2006, OGWDW piloted a logic model for the PWSS program. The pilot resulted in several additional developments:

- ***2006 PWSS Logic Model Pilot and Performance Indicators:*** OGWDW indicated that its 2006 pilot, which involved 4 regions and 11 States, was a success. As a result, OGWDW plans to roll the PWSS logic model out to at least one State in every EPA region by April 2008. All 50 States should receive the PWSS logic model by 2009. The purpose of the pilot was for EPA and the primacy agencies to achieve an oversight relationship for decision making and assessing program progress.
- ***Additional PWSS Logic Model Performance Indicators:*** OGWDW staff noted that several indicators have been added to the PWSS logic model, including the number of sanitary surveys/site visits that States conduct. EPA may add several additional indicators to the model as part of a larger Agency effort to eliminate program measurement gaps.
- ***Capacity Development Logic Model:*** OGWDW is also developing a more specific logic model for the capacity development portion of the PWSS program.
- ***Other Logic Models:*** OGWDW is developing additional logic models for the drinking water security and State Revolving Fund programs.

State Oversight

OGWDW measures State progress through performance measures (see "Performance Measure Development" section above) and SDWA reporting requirements. OGWDW uses these methods, as well as the ongoing logic model development process (see above), to help it determine whether its State partners are achieving desired outcomes. Recently, OGWDW enriched its oversight of State programs through:

- ***Increased PWSS Data Verification Audits:*** OGWDW directed the regions to increase the frequency of data verification audits from a 4- to 3-year cycle. It also improved the methodology used to conduct the audits.

Analytical Methods Development

OGWDW is also addressing the analytical methods used to test for drinking water contaminants. Analytical methods are those testing methods that are approved by EPA to support drinking water monitoring to measure compliance with regulations under SDWA. We noted the following:

- ***Website:*** OGWDW is currently updating its Website on analytical methods.
- ***Alternative Testing Methods:*** EPA proposed an expedited process for the approval of alternative methods. This expedited process is not yet final. If approved, an expedited process would allow the Agency to approve

analytical methods for contaminants it regulates under both the National Primary and Secondary Drinking Water Regulations far more quickly than would be possible through the traditional rulemaking process. Expedited approval would also extend to unregulated contaminants.

Chapter 4
Challenges Remain for Drinking Water Program

While EPA has taken a number of actions aimed at enhancing drinking water protection, it must still contend with the challenges posed by limited resources, emerging contaminants/new regulations, and drinking water security needs. What follows is a description of these challenges, as well as suggestions for OGWDW on which program areas would most benefit from additional evaluation. Although we are making these suggestions for focus, we make no recommendations in this report.

Challenges

Future drinking water protection efforts will have to contend with challenges in the following areas.

Resources

Future drinking water implementation efforts may have to proceed in a constrained fiscal environment. ASDWA reported that Federal funding for PWSS grants to States has fallen from $101 million in Fiscal Year 2004 to $99 million in Fiscal Year 2007, not accounting for inflation. DWSRF funding exhibits the same pattern. While the DWSRF was funded at $837 million in Fiscal Year 2007, its annual funding remains below the $1 billion authorized for the period between 1995 and 2003, absent any accounting for losses due to inflation.

States, as well as utilities, must also cope with considerable staff attrition. A poll of ASDWA board members reportedly showed attrition rates of 25-70 percent over the past 3 years. ASDWA expects these rates to continue at 25-50 percent for the next 3 years across all categories of senior, mid-management, and regular staff. The Rural Community Assistance Partnership, meanwhile, reported that as many as 50-70 percent of drinking water and wastewater facility operators will be retiring in the next several years. Although OGWDW is working with ASDWA and the Association of Boards of Certification to address operator staffing issues, the Agency acknowledges that replacing water system operators continues to be a major challenge.

Emerging Contaminants and New Regulations

Pharmaceuticals and personal care products pose challenges for both the Agency's research and regulatory programs. While some of these products (or "emerging contaminants," as they are often known) are easily broken down or

degrade quickly in the environment, others do not. These substances enter both the soil and aquatic environments through wastewater effluent, treated sewage sludge (biosolids), or irrigation with reclaimed water. OGWDW often lacks the information it needs to decide whether these contaminants should even be candidates for regulation. National monitoring of emerging contaminants is also hampered by a lack of appropriate, affordable analytical methods. Although EPA's Drinking Water Program, ORD, and the U.S. Geological Survey continue to collect and analyze information on emerging contaminants (including pharmaceuticals), the Agency maintains that emerging contaminants will continue to pose a challenge.

At the same time, EPA continues to issue new drinking water regulations. From January 2006-December 2007, EPA issued three new rules, as well as a Revised Lead and Copper Rule (see Table 4-1). These new rules pose an implementation challenge for States with limited resources.

Table 4-1: New Federal Drinking Water Regulations (2006-2007)

Regulation	Promulgation Date
Revised Lead and Copper Rule	October 2007
Final Ground Water Rule	November 2006
Long Term 2 Enhanced Surface Water Treatment Rule	January 2006
Stage 2 Disinfection Byproduct Rule	January 2006

Source: OIG analysis of EPA data

EPA plans to continue its regulatory work in 2008. EPA plans to propose a rule for airline water supplies as well as issue a draft regulation on geologic sequestration. The Agency has also stated it will make a final determination on whether to regulate perchlorate by the end of 2008.

Drinking Water Security

OGWDW faces the challenge of maintaining a "culture of security" at water systems in the absence of further EPA requirements. While nearly every system that had been required to complete a vulnerability assessment or Emergency Response Plan has done so, systems must continue to be involved in security efforts. EPA hopes that the variety of tools and technical assistance it provides to the water sector will help ensure systems' continued security. Some examples of EPA's security-related tools and technical assistance appear in Chapter 3.

Suggested Areas for Evaluation

We observed that certain aspects of the drinking water program could benefit from additional coverage. We suggest future evaluations for the areas listed below, especially the five areas identified as priorities. Priority evaluation areas

are those that intersect with the broader Agency challenges listed above, and are noted as such.

Water Security – Response Capability

[Priority – connected to "Drinking Water Security" challenge]

OIG's earlier evaluations focused on preparedness efforts such as vulnerability assessments (see Appendix A). With vulnerability assessments now essentially complete, however, more attention should be paid to system response capability. Our review found no comprehensive examinations of whether States/utilities are actually using their completed Emergency Response Plans in response efforts.

The few evaluations that touched on water systems' disaster response capability were thought provoking. A 2006 GAO report found that none of the U.S. water systems in the St. Clair/Detroit River Corridor received spill notifications within operators' preferred timeframes. As EPA embarks on more response-focused initiatives, it will be critical for the Agency to have good baseline data on system response capabilities.

Mutual Aid and Assistance Networks are one possible topic for evaluation. OGWDW has been working with the American Water Works Association to develop a program that encourages utilities to share workers/equipment with systems that have been affected by emergencies. These Water and Wastewater Agency Response Networks are now active in 19 States. Other utilities are participating in the "One System" program. Despite the fact that utility assistance agreements now exist in roughly half the States, they have not yet been the subject of a comprehensive evaluation. Previous evaluations were restricted geographically, considering, for instance, whether networks functioned in the wake of Hurricane Katrina.

Chemical Security at Drinking Water Facilities

[Priority - connected to "Drinking Water Security" challenge]

Chemical security issues continue to attract considerable attention on Capitol Hill. The Congressional Research Service identified chemical security as the most prominent drinking water issue in the last Congress. However, program evaluations have not kept pace with congressional interest. Although GAO published two recent reports on chemical security issues in the water sector, both reports focused exclusively on wastewater facilities. As congressional debate continues over whether the Department of Homeland Security's oversight of high-risk chemical facilities should be expanded to cover drinking water and wastewater facilities, it is imperative that lawmakers also have access to reports that chronicle the chemical security needs of drinking water facilities.

Variances/Exemptions and Waivers

[Priority – connected to "Resources" challenge]

We found no comprehensive evaluations on the extent to which States grant variances, exemptions, or waivers on monitoring requirements to public water systems. As the Agency continues to review proposed changes to its affordability criteria, it will become increasingly important to know whether States are able to use these and other tools that Congress provided in the 1996 SDWA Amendments. The Agency's request for information on the implementation challenges States face when reviewing and issuing small system variances should help begin this evaluation effort. We suggest that an evaluation be broad enough to cover not only variances, exemptions, and monitoring waivers but also other State enforcement tools, such as bilateral compliance agreements. States often use these agreements in lieu of exemptions for certain rules. An evaluation should also compare the frequency to which variances and exemptions are granted for a variety of rules, including the arsenic rule.

Effectiveness of Agency Funding

[Priority – connected to "Resources" challenge]

A more concerted focus on the effectiveness of Agency funding would benefit both EPA and its partners as they contend with resource challenges. While OGWDW staff noted that they are working with States to measure the benefits associated with DWSRF funding, they acknowledged that this work is not retrospective. The Agency does provide extensive retrospective information on the State Revolving Fund in its Annual Report, but this information tends to be more descriptive than evaluative. The 2006 Annual Report notes, for instance, that 69 percent of Fiscal Year 2006 monies went to small systems; it does not note whether this 69 percent had a greater differential impact than the remaining funding that went to larger systems. Future evaluations could investigate whether fund grants to small systems yield greater benefits to human health and the environment, dollar for dollar, than fund grants to comparatively larger systems.

A retrospective evaluation of the Operator Certification Expense Reimbursement Grant program may also be beneficial. Rural Community Assistance Partnership staff asserted that this program failed, in many instances, to reach the smallest system operators. Operators either did not receive enough funding to attend training events, or States ended up using unspent funds for other purposes. An evaluation of such claims could benefit future efforts aimed at assisting small system operators.

Contaminant Selection Process

[*Future Priority – connected to "Emerging Contaminants and New Regulations" challenge*]

More evaluation is needed of the process EPA uses to select contaminant candidates for regulation. Prior reviews have generally focused on other aspects

of drinking water regulation, such as the economics of drinking water regulation, or the process EPA employs to select drinking water contaminants for potential regulation. A September 2007 study, for instance, analyzed several environmental regulations, including the Disinfection By-Products Rule, but its focus was limited to economic concerns. EPA's Contaminant Candidate List (CCL) has also received attention. According to OGWDW officials, the development of the third CCL has been influenced by recommendations from both NDWAC and the National Academy of Sciences. EPA's Science Advisory Board will also review the CCL before it is finalized.

However, OGWDW agrees that the scientific portion of the regulatory decision-making process deserves additional attention, for it is likely to be a concern for Congress when it takes up SDWA reauthorization. In fact, two members of Congress have asked GAO to examine the processes EPA uses to identify drinking water contaminants for regulation. The OIG suggests that any review of the scientific portion of EPA's drinking water contaminant selection process not proceed until the Agency finalizes its third CCL or completes its regulatory determination process on the second CCL in mid-2008.

Inter-Program Linkages

Within EPA

Apart from a 2005 report documenting OGWDW's partnership with the Office of Underground Storage Tanks on tank inspections in source water protection areas, our review found no recent progress reports on collaborations between OGWDW and other EPA offices. Both Agency and non-Agency sources identified inter-program relationships with the Office of Enforcement and Compliance Assurance (OECA) and ORD as deserving particular attention:

- **OGWDW's relationship with OECA:** It is unclear whether OECA is adequately coordinating its efforts with OGWDW. OECA reports that it has "substantive, regular, and consistent" coordination with OGWDW on both rule development and enforcement, while other sources indicate that OECA's enforcement priorities may be out of alignment with those of OGWDW. What is clear is that the OECA-OGWDW relationship merits a thorough examination. Although the OIG already plans to evaluate OECA's relationships with EPA's various media offices (e.g., Office of Water and Office of Air and Radiation), we suggest that the OIG evaluation focus on clarifying the extent to which OECA and OGWDW are actually coordinating their efforts.

- **OGWDW's relationship with ORD:** ORD acknowledges the potential for overlap between its research efforts and those of OGWDW. Its Drinking Water and Homeland Security Research Programs directly relate to OGWDW's work. In fact, ORD's National Homeland Security

Research Center has joined OGWDW in issuing voluntary guidance on certain aspects of water security. To ensure that these offices effectively coordinate their research efforts, we suggest that an evaluation be conducted of those areas, both security and non-security related, with the greatest potential for organizational overlap.

Other inter-program relationships may also be worth examining. A January 2008 OIG evaluation criticized EPA's Office of Emergency Management for failing to coordinate with OGWDW on the development of an Emergency Response Business Plan. The report recommended that the Office expand internal EPA coordination and coordination with other relevant Federal, State, and local emergency response agencies.

The report also contained a recommendation that focused on planning for chemical incidents, such as chlorine tank explosions. The Agency agrees with the report's suggestion that it incorporate its knowledge of major repositories of existing chemicals, including chlorine when appropriate, in its future regional planning efforts for chemical-specific events. These efforts might benefit from greater collaboration between OGWDW and the Office of Emergency Management, since drinking water facilities often store large amounts of gaseous chlorine and other hazardous materials.

Across Federal Agencies

We also found no progress reports on inter-agency drinking water program collaborations. Several memoranda of understanding exist between the Office of Water and other, relevant, Federal agencies (see Table 4-2). However, our review uncovered no updates on the work conducted pursuant to these memoranda of understanding.

Table 4-2: Inter-Agency Drinking Water Memoranda of Understanding

Topic	Signatories	Year
Arsenic Assistance to Small Systems	• U.S. Department of Agriculture – Rural Utilities Service • EPA – Office of Water	2002
Lead in School / Child Care Facility Drinking Water Supplies	• Centers for Disease Control and Prevention • U.S. Department of Education • American Water Works Association • Association of Metropolitan Water Agencies • ASDWA • National Association of Water Companies • National Rural Water Association • EPA – Office of Water	2005
Asset Management	• U.S. Department of Transportation – Federal Highway Admin. • EPA – Office of Water	2006
Infrastructure Funding Coordination	• U.S. Department of Agriculture – Rural Utilities Service • U.S. Department of Housing and Urban Development • EPA – Office of Water	1997

Source: OIG analysis of EPA data

In addition to tracking any progress made under these memoranda of understanding, evaluations could consider whether any other inter-agency agreements are necessary.

UIC - Class V Wells

A 2004 Ground Water Protection Council survey estimated that there were at least 1.5 million Class V wells nationwide. Most of these wells are shallow, unsophisticated disposal systems, such as storm water drainage wells, cesspools, and septic system leach fields. Many of the approximately 30 types of Class V wells are either under-regulated or not regulated at all. Given the enormity of the Class V universe, as well as the potential impact these wells may have on underground sources of drinking water, OGWDW maintains that this program needs additional evaluation coverage.

EPA's Class V Rules deserve particular attention. Although Class V wells were the subject of an extensive Agency evaluation in 1999, EPA has since decided to regulate large capacity cesspools and motor vehicle waste disposal wells. Now that the compliance deadlines have passed for the Agency's Class V Rules, it is an opportune time to examine the extent to which States have been able to implement these regulations.

Such an evaluation should also examine the impact that resources have on Class V program implementation. The Ground Water Protection Council asserts that a real decline in the size of the Federal UIC grant to States has resulted in a Class V program that has not been fully implemented. The Council notes, anecdotally, that this uneven implementation extends to EPA's regulation of large capacity cesspools and motor vehicle waste disposal wells. Absent additional funding, the Council doubts whether geologic sequestration can be fully implemented either.

We suggest that an evaluation of the impact that resources have on Class V program implementation be part of a larger evaluation of Federal UIC resources. The Office of Management and Budget found, in a 2004 Program Assessment Rating Tool review, that Federal UIC grants have generally received inadequate evaluation coverage. The Ground Water Protection Council's comments, along with our own analysis, confirm that evaluation coverage of the Federal UIC Grant program remains inadequate.

Transient and Non-Transient Non-Community Water Systems

SDWA regulates those schools and child care facilities that have their own water supplies as non-transient, non-community water systems, while campgrounds are often classified as transient, non-community water systems. Although GAO considered the needs of schools and child care facilities in its 2006 report on lead contamination in drinking water supplies, non-community water systems have

often fallen outside of the scope of previous evaluations. Both the OIG's 2006 small systems report and its August 2005 progress report on SDWA implementation limited their interviews to representatives of community water systems.

We suggest that GAO's analysis be extended to cover the needs of other types of non-community water systems. Future evaluations should pay particular attention to the implementation challenges these systems encounter with other drinking water regulations, not just the Lead and Copper Rule. Such evaluations should also consider EPA's 2003 survey of non-community water system infrastructure needs.

SDWIS Modernization

While ASDWA points to improved data management as one of EPA's greatest, recent successes, our review found no comprehensive evaluation quantifying the extent to which data quality is increasing. Though OGWDW staff noted that a drinking water data quality report is forthcoming, this report cycle will still contain data that were entered before the Agency put its current data quality procedures in place. By late 2008, however, EPA should have enough recent data to permit a comprehensive evaluation of drinking water data quality. Such an evaluation should confirm whether the modernization of SDWIS has been accompanied by corresponding improvements in data quality.

Agency Response and OIG Comments

The Assistant Administrator, Office of Water, responded to the draft report on March 25, 2008 (see Appendix C). He agreed that the challenges we raised and the potential areas we suggested for future evaluation are appropriate. Although the Office of Water believes that other areas may also warrant evaluation, it will, nonetheless, take our suggestions into consideration as it develops future plans.

Status of Recommendations and Potential Monetary Benefits

RECOMMENDATIONS						POTENTIAL MONETARY BENEFITS (in $000s)	
Rec. No.	Page No.	Subject	Status[1]	Action Official	Planned Completion Date	Claimed Amount	Agreed To Amount
		No recommendations					

[1] O = recommendation is open with agreed-to corrective actions pending;
C = recommendation is closed with all agreed-to actions completed;
U = recommendation is undecided with resolution efforts in progress

Appendix A

Pertinent Prior Reports

EPA OIG		
Report Title	**Report No.**	**Date**
EPA Can Improve Its Oversight of Audit Followup	2007-P-00025	May 24, 2007
Promising Techniques Identified to Improve Drinking Water Laboratory Integrity and Reduce Public Health Risks	2006-P-00036	September 21, 2006
Much Effort and Resources Needed to Help Small Drinking Water Systems Overcome Challenges	2006-P-00026	May 30, 2006
Progress Report on Drinking Water Protection Efforts	2005-P-00021	August 22, 2005
Source Water Assessment and Protection Programs Show Initial Promise, But Obstacles Remain	2005-P-00013	March 28, 2005
EPA Needs to Determine What Barriers Prevent Water Systems from Securing Known Supervisory Control and Data Acquisition (SCADA) Vulnerabilities	2005-P-00002	January 6, 2005
EPA's Final Water Security Research and Technical Support Action Plan May Be Strengthened Through Access to Vulnerability Assessments	2004-P-00023	July 1, 2004
States Making Progress on Source Water Assessments, But Effectiveness Still to Be Determined	2004-P-00019	May 27, 2004
EPA Claims to Meet Drinking Water Goals Despite Persistent Data Quality Shortcomings	2004-P-0008	March 5, 2004
Survey Results on Information Used by Water Utilities to Conduct Vulnerability Assessments	2004-M-00001	January 20, 2004
Impact of EPA and State Drinking Water Capacity Development Efforts Uncertain	2003-P-00018	September 30, 2003
EPA Needs to Assess the Quality of Vulnerability Assessments Related to the Security of the Nation's Water Supply	2003-M-00013	September 24, 2003
EPA Needs a Better Strategy to Measure Changes in the Security of the Nation's Water Infrastructure	2003-M-00016	September 11, 2003

GAO		
Report Title	**Report No.**	**Date**
Clean Water: Better Information and Targeted Prevention Efforts Could Enhance Spill Management in the St. Clair – Detroit River Corridor	GAO-06-639	June 2006
Assessment of "Environmental Protection Agency: National Primary Drinking Water Regulations - Long Term 2 Enhanced Surface Water Treatment Rule"	GAO-06-354R	January 2006
Assessment of "Environmental Protection Agency: National Primary Drinking Water Regulations - Stage 2 Disinfectants and Disinfection Byproducts Rule"	GAO-06-350R	January 2006
Drinking Water: EPA Should Strengthen Ongoing Efforts to Ensure that Consumers are Protected from Lead Contamination	GAO-06-148	January 2006
Federal Water Requirements: Challenges to Estimating the Cost Impact on Local Communities (A Memorandum to the Honorable James M. Inhofe and the Honorable Mike Crapo)	GAO-06-151R	November 2005
DISTRICT OF COLUMBIA'S DRINKING WATER – Agencies Have Improved Coordination, but Key Challenges Remain in Protecting the Public from Elevated Lead Levels	GAO-05-344	March 2005
Water Infrastructure: Comprehensive Asset Management Has Potential to Help Utilities Better Identify Needs and Plan Future Investments	GAO-04-461	March 2004
Drinking Water: Experts' Views on How Future Federal Spending Can Best Be Spent to Improve Security	GAO-04-29	October 2003
Deep Injection Wells: EPA Needs to Involve Communities Earlier and Ensure That Financial Assurance Requirements Are Adequate	GAO-03-761	June 2003

Other Relevant Reports		
Report Title	**Source**	**Date**
Perchlorate Contamination of Drinking Water: Regulatory Issues and Legislative Actions	Mary Tiemann, Specialist in Environmental Policy, Resources, Science, and Industry Division, (Congressional Research Service),	April 4, 2007 (update)
Water Infrastructure Needs and Investment: Review and Analysis of Key Issues	Claudia Copeland, Specialist in Resources and Environmental Policy and Mary Tiemann, Specialist in Environment Policy, Resources, Science, and Industry Division, (Congressional Research Service)	March 19, 2007 (update)
Safeguarding the Nation's Drinking Water: EPA and Congressional Actions	Mary Tiemann, Specialist in Environmental Policy, Resources, Science, and Industry Division, (Congressional Research Service)	March 13, 2007 (update)
Improving the Nation's Water Security: Opportunities for Research	National Research Council	2007

Other Relevant Reports (continued)		
Report Title	**Source**	**Date**
Arsenic in Drinking Water: Regulatory Developments and Issues	Mary Tiemann, Specialist in Environmental Policy, Resources, Science, and Industry Division (Congressional Research Service)	October 5, 2006 (update)
Safe Drinking Water Act: Issues in the 109th Congress	Mary Tiemann, Resources, Science, and Industry Division (Congressional Research Service)	July 19, 2006
Working Group on the Public Education Requirements of the Lead and Copper Rule, Recommendations to the National Drinking Water Advisory Council	National Drinking Water Advisory Council	May 2006
MTBE in Gasoline: Clean Air and Drinking Water Issues	James E. McCarthy and Mary Tiemann, Specialists in Environmental Policy, Resources, Science, and Industry Division (Congressional Research Service)	April 14, 2006 (update)
Environmental Performance Review (United States)	Organisation for Economic Co-Operation and Development	2006
Drinking Water Distribution Systems: Assessing and Reducing Risks	National Research Council	2006
A National Assessment of Tap Water Quality	Environmental Working Group	December 20, 2005
Recommendations of the National Drinking Water Advisory Council to the U.S. EPA on Water Security Practices, Incentives and Measures	National Drinking Water Advisory Council	June 2005
Public Water Supply Distribution Systems: Assessing and Reducing Risks (First Report)	National Research Council	2005
National Drinking Water Advisory Council Report on CCL Classification Process to the U.S. Environmental Protection Agency	National Drinking Water Advisory Council	May 19, 2004
Indicators for Waterborne Pathogens	National Research Council	2004
Recommendations of the National Drinking Water Advisory Council to the U.S. EPA on its National Small Systems Affordability Criteria	National Drinking Water Advisory Council	July 2003
Public Health Protection Threatened by Inadequate Resources for State Drinking Water Programs: An Analysis of State Drinking Water Programs Resources, Needs and Barriers	Association of State Drinking Water Administrators	April 2003
What's on Tap? Grading Drinking Water in U.S. Cities	Natural Resources Defense Council	2003

Appendix B

Summary of Corrective Actions Taken or Planned on OIG Evaluation Report Recommendations (2003-2007)

"EPA Needs a Better Strategy to Measure Changes in the Security of the Nation's Water Infrastructure" (Report No. 2003-M-00016; September 11, 2003)		
No.	**Suggestion**	**Corrective Actions Taken or Planned**
1	Develop specific, measurable goals, objectives, and performance indicators for its water security programs.	The Department of Homeland Security is developing a core set of metrics that will be common to all critical infrastructure sectors while EPA continues its work on a set of sector-specific metrics.
2	Utilize available sources of information to collect and analyze data to develop a baseline for water security.	An OGWDW official reported that, in 2007, a Critical Infrastructure Partnership Advisory Council workgroup was formed to develop measures for the water sector. Based on the results of the workgroup, the Water Critical Infrastructure Partnership Advisory Council approved 22 utility measures, 18 "other actor" measures for non-utilities (e.g., EPA, Department of Homeland Security, and State government agencies), and 12 optional measures for utilities to use when conducting self-assessments of risk reduction.

"EPA Needs to Assess the Quality of Vulnerability Assessments Related to the Security of the Nation's Water Supply" (Report No. 2003-M-00013; September 24, 2003)		
No.	**Suggestion**	**Corrective Actions Taken or Planned**
1	EPA should consider including in its review a qualitative analysis of vulnerability assessments submitted by large utilities to determine whether they adequately address the threats envisioned by the Bioterrorism Act. Specifically, EPA's analysis should address whether the large utilities: (a) identified and prioritized specific threats – particularly terrorist scenarios; and (b) assessed the full breadth of a water system's infrastructure – particularly its distribution system.	EPA assists water utilities with security measures, though its assistance is increasingly being refocused from terrorism threats to a more comprehensive all-hazards approach. Although the Agency offers utilities several tools and training opportunities that address all-hazards, it continues to provide materials that emphasize terrorist threats. In 2008, EPA will offer training to water utilities and emergency responders on responding to intentional contamination events. Other training provides utilities with an understanding of the National Incident Management System and Incident Command System, the standard organizational framework for responding to events from a local to Federal level. EPA invested in modeling of contaminants in distribution systems; designed and tested a contamination warning system under the Water Security Initiative; and intends to expand the program to additional cities in 2008. The Agency has already disseminated interim guidance materials on contamination warning systems and consequence management based on lessons-learned from the first pilot.

2	If EPA's analysis confirms our observations, EPA should focus on amending its guidance to address the shortcomings identified in this memorandum.	See actions under Suggestion 1 above.

"Impact of EPA and State Drinking Water Capacity Development Efforts Uncertain" (Report No. 2003-P-00018; September 30, 2003)		
No.	**Recommendation**	**Corrective Actions Taken or Planned**
1	Develop a national capacity development strategy that promotes T/M/F [technical, managerial and financial] capacity in a proactive, integrated, flexible, and accountable manner throughout [the Agency's] key drinking water programs, and provide additional guidance and/or information, accordingly.	In November 2007, the Office of Water released its Capacity Development Evaluation Tool to the regions to help them evaluate State programs. It also published a National Capacity Development Strategic Plan in January 2008.
2	Revise 40 Code of Federal Regulations 35.3515 (DWSRF withholding regulations) to provide more specific criteria that will allow EPA to conduct meaningful annual assessments of State capacity development strategies. These revisions should include defining the terms "developing," "implementing," acquiring," and "maintaining," as criteria for EPA to conduct annual assessments of State capacity development strategies.	See actions under Recommendation 1 above. In a June 1, 2005, memorandum, OGWDW outlines the reporting criteria the regions are to follow as they review State capacity development programs. This memo constitutes the annual reporting guidance that fulfills the recommendation.
3	Develop the comprehensive evaluation to be used to assess implementation of States' capacity development strategies, consistent with differing States' needs and circumstances, and require the use of this tool by regions as part of their oversight responsibilities.	See actions under Recommendations 1 above.
4a-b	4. Work with [Agency] partners and stakeholders to: (a) Identify a set of common measures that can be used to develop and implement national performance goals. (b) Determine what common capacity development data and/or information resources are available that could be used to support a national capacity development measure, while minimizing data collection burdens to States and water systems.	See actions under Recommendation 1 above.

5a-d	5. Using the results in Recommendation 4, develop national capacity development measures by: (a) Identifying capacity development goals to be accomplished, as part of the drinking water annual performance goals. (b) Developing specific capacity development measures that support the capacity development annual performance goals. (c) Either modifying already existing data collection efforts or developing new data collection processes for capacity development performance measures. (d) Analyzing results of capacity development performance on a national basis, and reporting progress to Congress and the public, as required by the Government Performance & Results Act of 1993.	See actions under Recommendation 1 above.

"Survey Results on Information Used by Water Utilities to Conduct Vulnerability Assessments" (Report No. 2004-M-00001; January 20, 2004)		
No.	**Suggestion**	**Corrective Actions Taken or Planned**
1	Ensure that small utilities have access to security information that large utilities received from consultants funded by EPA, possibly by fully funding the Water Information Sharing and Analysis Center, and provide lists of other agencies from which utilities could obtain information.	OGWDW addressed this recommendation with the creation of the Water Information Sharing and Analysis Center and its companion Water Security Channel, for smaller utilities. The Agency also placed related links on its Website: http://cfpub.epa.gov/safewater/watersecurity/infosharing.cfm
2	Ensure that water utilities have access to information on funding security enhancements, including use of the DWSRF.	EPA published a fact sheet on using the DWSRF to fund security work in 2001, 3 years before this OIG report was published (http://www.epa.gov/safewater/dwsrf/pdfs/security-fs.pdf). Since then, the Agency has continued to mention that security projects are eligible for State Revolving Fund assistance. It has not received any indication that the information currently available is not meeting the needs of stakeholders. As EPA continues to review State priority systems and Intended Use Plans, it finds that States are explicitly mentioning that security-related projects are eligible for State Revolving Fund program assistance. The Drinking Water Infrastructure Needs Survey, on which DWSRF allotments are based, asks public water systems to provide information on capital-related security needs. This helps to highlight the availability of funding through the DWSRF program. The Water Security program's Grants and Funding page also highlights the DWSRF and Clean Water State Revolving Fund programs as a source of funding (see http://cfpub.epa.gov/safewater/watersecurity/financeassist.cfm).

3	Consider using the performance indicators discussed above to set a baseline for water security and measure improvements over time, particularly through the use of exercises and drills to test the security of water utilities.	The Department of Homeland Security is developing a core set of metrics that will be common to all critical infrastructure sectors while EPA continues its work on a set of sector-specific metrics. EPA also has tabletop exercises for water systems, with more such exercises likely under the Agency's Draft Homeland Security Work Plan.

"EPA Claims to Meet Drinking Water Goals Despite Persistent Data Quality Shortcomings" (Report No. 2004-P-0008; March 5, 2004)		
No.	**Suggestion**	**Corrective Actions Taken or Planned**
1	The Agency should better account for the large number of violations that aren't reported in the SDWIS Federal Version.	The Agency has identified completeness and timeliness of data as important issues affecting data quality. It reviews State data to ensure that data quality is addressed. During both Fiscal Years 2005 and 2006, the Agency conducted 15 on-site data verification reviews that compare the public water system data in State files and databases with data in SDWIS, an increase over previous years. EPA is developing a new electronic data verification tool that will allow all States using SDWIS/STATE to quickly perform electronic data verifications. In combination with the on-site reviews, the OIG expects that the tool will allow an increase in the number of annual data verifications and also allow for informal checks of State data.
2	In the future, the Agency should move toward employing an altogether different methodology for reporting performance for its drinking water quality Annual Performance Goal.	EPA has adopted a probabilistic approach to assess data quality through the data verification process. However, while data quality objectives can be based on a probabilistic approach, public health objectives are best addressed through a census approach.

"States Making Progress on Source Water Assessments, But Effectiveness Still to Be Determined" (Report No. 2004-P-00019; May 27, 2004)		
No.	**Recommendation**	**Corrective Actions Taken or Planned**
2-1	Continue development and establishment of source water assessment and protection measures that better capture the program's results. In the EPA/State workgroup discussions to finalize the source water assessment and protection measures and reporting requirements, we recommend that EPA revisit the State agency concerns raised in this report, solicit and evaluate alternatives, and resolve the concerns to the satisfaction of the group.	The Office of Water issued final measures guidance on March 7, 2005 ("National Water Program Guidance - State and Federal Source Water Assessment and Protection Program Measures - Final Reporting Guidance"). See Strategic Target F and Related Program Assessment Measures – Fiscal Years 2006-2008.

2-2	Given the uncertainty as to what assessment information can and should be released to the public, and with the limitations in light of recent security concerns, continue to develop and issue guidance to the States on what assessment information is appropriate to release to the public and by what means different types of information should be distributed.	On April 4, 2005, the Office of Water issued a memorandum establishing a policy to balance security concerns and diverse State information handling requirements with public health goals, right-to-know requirements, and other program and statutory requirements.

"EPA's Final Water Security Research and Technical Support Action Plan May Be Strengthened Through Access to Vulnerability Assessments" (Report No. 2004-P 00023; July 1, 2004)		
No.	**Recommendation**	**Corrective Actions Taken or Planned**
1	ORD immediately request, and Office of Water immediately grant to ORD officials responsible for developing, prioritizing, and implementing critical water security research projects, access to vulnerability assessments provided by utilities. Once granted access, appropriate ORD officials should review the vulnerability assessments to determine the extent to which EPA's Research Action Plan addresses utilities' most significant vulnerabilities.	This recommendation was largely addressed to ORD. A followup on ORD's response is outside the scope of this report.
2	If ORD wishes to use a contractor for the vulnerability assessment review relating to EPA's Research Action Plan, ORD should immediately request access to a sample of vulnerability assessments to enable it to more effectively formulate questions for contractor review, and Office of Water should expedite a contract amendment to have the contractor address ORD's additional questions.	See above.

"EPA Needs to Determine What Barriers Prevent Water Systems from Securing Known Supervisory Control and Data Acquisition (SCADA) Vulnerabilities" (Report No. 2005-P-00002; January 6, 2005)		
No.	**Suggestion**	**Corrective Actions Taken or Planned**
1	EPA to identify impediments preventing water systems from successfully reducing or mitigating SCADA vulnerabilities, and take steps to reduce those impediments.	In January 2005, EPA released a suite of "Emergency Response Tabletop Exercises" for drinking water and wastewater systems, with one module directed at SCADA assessment issues. EPA co-funded a project with the Department of Homeland Security called the Cyber Security Self Assessment Tool for Water. Distribution and licensing agreements are being negotiated, but the tool should be available to water and wastewater utilities in 2008. In September 2007, EPA worked with the Department of Homeland Security and the major water associations to securely distribute a bulletin to the water sector about cyber vulnerability and corresponding mitigation procedures. On September 20, 2007, a one-day strategy meeting took place in San Jose, California, hosted by the American Water Works Association, with EPA and the Department of Homeland Security participating. The meeting began the work of developing a cyber security strategy/road map for the water sector, similar to what was done for the energy sector. Results of that meeting were presented to the Water Sector Coordinating Council and Water Government Coordinating Council on October 30, 2007, and the Water Sector Coordinating Council agreed to assign some members to continue working on the roadmap.
2	EPA to develop SCADA security measures to track the effectiveness of security efforts.	Draft utility measures have been proposed within the context for the Department of Homeland Security-instituted partnership model (private/public partnership). They are in the process of being refined and approved by the Water Sector Coordinating Council and Water Government Coordinating Council.

"Source Water Assessment and Protection Programs Show Initial Promise, But Obstacles Remain" (Report No. 2005-P-00013; March 28, 2005)		
No.	**Recommendation**	**Corrective Actions Taken or Planned**
3-1	Encourage States that have not yet released their assessments to the public to target not only utilities, but local governments, councils, planners, building and zoning officials, and other stakeholders. States that have released the assessments should be encouraged to provide copies of the assessments to these additional stakeholders during the protection phase of the program. States should also be encouraged to the greatest extent possible to follow assessment distribution with interpretation and direction on how to take the next step. States can help by identifying opportunities for technical assistance and financing for protection planning and implementation.	EPA and 13 organizations, including State agencies, water utilities, and environmental groups, formed the Source Water Collaborative on February 17, 2006. The parties agreed to share information, develop recommendations on methods for protecting source water, and disseminate these recommendations to key decision makers on land use.
4-1 a-c	4-1. In order to improve the prospect for the Source Water Assessment and Protection Program's success in the future and its sustainability: a. Issue a public statement to re-affirm and make it clear to States that this program is a priority, that the source water assessments are beneficial, and that EPA is dedicated to continuing to support the source water protection phase of the program. b. Delineate the State role in this next phase of the program, see to it that the States prioritize source water protection, and provide feedback on the State's protection strategies as they develop. In addition, delineate future plans for program enhancement, such as updating assessment information and addressing data gaps. c. Provide guidance to States on how to leverage financial and technical resources from other EPA programs, partners, and stakeholders.	EPA's 2006-2011 Strategic Plan includes, as a strategic target, the percentage of communities that are "substantially implementing" source water protection strategies. Since FY 2006, OW has included program measures that support this target. EPA is continually working with States and their national organizations to provide direct assistance, provide training, and transfer ideas across States. The Agency planned to release a letter asserting that source water protection is an important part of the watershed approach and to encourage States to use source water assessments for protection as intended by the SDWA Amendments of 1996. EPA will continue to highlight to States guidance on funding options for source water protection. The Office of Water's Websites have many documents on this topic.
4-2	Continue to work with Congress to allow future DWSRF set-asides to be designated for "source water protection," which would include both ground water and surface water sources.	Congress has not requested technical assistance on how it could modify the DWSRF set-asides since the OIG issued its report. However, OGWDW believes it can achieve most of the same objectives by clarifying State guidance to provide expanded State flexibility for using DWSRF set-asides for source water protection and capacity development; related guidance was published in October 2006.

4-3	Continue to work with the National Rural Water Association to remove barriers to Association-State coordination and collaboration on source water protection. Clearly delineate and communicate the Association's role in source water protection to the Association and the States and follow up with States on their satisfaction with State chapter cooperation.	EPA continues to work with the National Rural Water Association on wellhead and source water protection. EPA will work closely with the national organization and with each State program, as practicable, to ensure coordination among technicians and State source water protection staff in each State.
4-4	Work with regions and States to determine how best to disseminate locally-applicable best practices at the State and local levels for: (a) contaminant source management strategies and (b) how to motivate and sustain local level action. In addition, continue to monitor protection programs and identify common elements of success for promotion in future protection efforts.	In spring 2005, several documents were produced with EPA financial support. The Trust for Public Land and the Environmental Finance Center Network published final reports on local source water protection demonstrations. These reports include extensive recommendations for States and localities on what works and what does not. A document will likely be published that describes these lessons and offers some recommendations for State and local source water protection programs. In September 2006, the Agency published a "How-To" manual on updating local source water assessments.
4-5	In coordination with regions and States, identify points of integration among environmental programs and delineate steps to implement program integration plans.	The Office of Water has worked, and continues to work, within the Office, with other EPA program offices, and with other Federal agencies, to integrate environmental programs. In addition, it has encouraged States to do the same. The Office of Water has worked vigorously for the past few years to integrate the Clean Water Act with SDWA standards, assessments, and monitoring.
4-6	Assist regions and States in identifying appropriate State and Federal agencies with activities that impact drinking water quality, providing appropriate Agency officials with information on locations of source water areas and potential impacts to water quality, and facilitating cooperation among these agencies to mitigate these impacts and further drinking water protection.	See actions under Recommendation 4-5 above.
4-7	Continue to engage the 1999 Federal Multi-Agency Source Water Agreement participants and determine how agencies are contributing. Based on State and regional needs, identify additional partnership opportunities and determine how participation can be further enhanced in the protection phase of the Source Water Assessment and Protection Program.	OGWDW is pursuing new projects with the Office of Water, with the Office of Underground Storage Tanks in the Office of Solid Waste and Emergency Response, with the Forest Service (in the U.S. Department of Agriculture), with the Department of Energy, and with numerous other agencies where source water protection is a part of other initiatives (e.g., Watershed Protection, Smart Growth).

"Progress Report on Drinking Water Protection Efforts" (Report No. 2005-P-00021; August 22, 2005)		
No.	**Recommendation**	**Corrective Actions Taken or Planned**
3-1	Identify methods to improve the Consumer Confidence Report through the NDWAC or other work group.	The revised Lead and Copper Rule addressed this recommendation as well as NDWAC's May 2006 report recommendation. The new rule requires that educational statements about lead in drinking water be included in all Consumer Confidence Reports.
4-1	Continue to develop measures for individual SDWA provisions like capacity development. We encourage the Assistant Administrator for Water to support the drinking water program's efforts to develop indicators based on a logic model for the PWSS Program.	In February 2006, OGWDW developed the PWSS logic model and performance indicators for the PWSS program. The 2006 logic model pilot involving 4 regions and 11 States was a success. As a result, OGWDW plans to roll the PWSS logic model out to at least one State in every EPA region by April 2008. It hopes to roll-out the logic model to all 50 States by 2009.

"Much Effort and Resources Needed to Help Small Drinking Water Systems Overcome Challenges" (Report No. 2006-P-00026; May 30, 2006)		
No.	**Recommendation**	**Corrective Actions Taken or Planned**
2-1	Direct EPA to work with States to identify successful approaches for working with small systems in the DWSRF program.	EPA will continue to research and publicize examples of innovative State use of set-asides and loans to assist small systems, with a special focus on helping them achieve compliance with the revised arsenic rule and other new regulatory requirements. EPA will also continue to support sessions that have a small system focus at the annual State Revolving Fund workshop convened by the Council of Infrastructure Financing Authorities.
3-1	Direct OGWDW to work closer with States to identify and compile small system best practices and establish a method for disseminating the information so that limited resources to assist small systems can be maximized.	OGWDW has convened regional and national capacity development workshops. It will continue to have annual planning meetings with recipients of EPA's Small System Technical Assistance Center grants and other technical assistance providers to share information about its Technical Assistance Centers. The 2006 ASDWA Annual Conference had two sessions focusing on small systems issues: (1) Small Systems Solutions, and (2) Improving Performance in Capacity Development and Operator Certification. OGWDW has also initiated semi-annual conference calls with ASDWA's Small Systems Committee, as well as incorporated a section on innovations and best management practices into the Capacity Development Program Evaluation Tool that was released in November 2007. EPA co-hosted a pre-conference workshop at the 2007 and 2008 annual conferences of the Association of Boards of Certification. These workshops were supposed to stimulate dialogue on solutions for retaining and recruiting water system operators.

4-1	Develop and implement approaches to improve communication with small systems so that targeted guidance is received and understood.	Targeted guides and other products from the Utilities Team are always reviewed by stakeholders, including small systems, when possible, prior to finalization. Various approaches (including piloting guidance documents to ensure that operators are receiving information in an understandable format) are assessed to gather additional feedback directly from small systems on how useful the capacity development tools are, as well as whether any additional tools need to be developed. The Agency will develop an improved Internet site to provide EPA information to small systems and links to other third party providers who also assist small systems. OGWDW plans to work with stakeholders on these improvements. Its response letter contains an updated list of tools to assist States and small systems.
5-1	Continue the collaborative effort with the Centers for Disease Control and Prevention to improve the system of identifying drinking water-related health outbreaks.	EPA will continue to work with the Centers for Disease Control and Prevention on activities related to identification and reporting of drinking water-related health outbreaks as the Centers for Disease Control and Prevention moves toward replacing a paper-based outbreak reporting system with an electronic-based system. In 2007, the Office of Water was to work with the Centers for Disease Control and Prevention and the Council of State and Territorial Epidemiologists to conduct a workshop focused on detection and investigation of outbreaks. The Office of Water is also working with the Centers for Disease Control and Prevention, and ORD, on a number of grant-funded research projects focused on surveillance. Several projects have been funded to date; expected completion is within 2 to 4 years.

"Promising Techniques Identified to Improve Drinking Water Laboratory Integrity and Reduce Public Health Risks" (Report No. 2006-P-00036; September 21, 2006)		
No.	**Recommendation**	**Corrective Actions Taken or Planned**
1	Prepare laboratory certification officers for the conditions they will face in testing laboratories associated with fraud by applying the following promising techniques: (a) Promote training and education regarding fraud and (b) Integrate fraud awareness into laboratory certification training.	OGWDW provided participants in the September 2007 Drinking Water Laboratory Certification Officer courses (Chemistry and Microbiology) a copy of the OIG report prior to attending. A summary of the OIG report and Office of Water Action Plan was presented during both courses. Comments were also invited from participants regarding laboratory fraud issues, as well as approaches to address them. Agendas and handouts for both courses are available upon request. OGWDW indicated it will continue this action annually at both courses, involving fraud experts as they are available.

2	Ensure that all individuals within OGWDW, regions, and States who have oversight responsibility for laboratories analyzing drinking water samples are educated and proficient in the proper procedures to follow should a laboratory be suspected of inappropriate or fraudulent procedures. Specifically: (a) Distribute written guidance and appropriate contacts at the suggested course for State certification officers; copies of the guidance should also be distributed to OGWDW regions and Technical Support Center staff, (b) Establish the use of the EPA fraud hotline for environmental testing laboratories; certified and accredited laboratories should be provided with appropriate OECA or OIG contacts to report possible misconduct, (c) Work with OECA to determine if the form connected to the online violation reporting tool on EPA's Website could be used for laboratory fraud.	OGWDW addressed all of these items in an e-mail to the Regional Certification Officers on January 26, 2007. The Office's response was also included in the materials distributed to participants in the September 2007 Certification Officer Training. Copies of these materials are available upon request.
3	Create and use a training course, exam, and standard methods for the certification of laboratories analyzing drinking water samples for radiochemical contaminants.	Radiochemistry training took place with Pennsylvania in December 2006 and Arizona in February 2007. OGWDW also participated in the radiochemistry training offered by the Office of Air and Radiation in September 2007 and initiated discussions with the Office's management regarding the possibility of expanding the course to a wider group of Certification Officers. OGWDW continues to fund and coordinate radiochemistry audits of Principal State Laboratories by contract experts, in support of regional programs that currently have limited radiochemistry expertise. OGWDW is in the process of developing the addendum to the "Manual for the Certification of Laboratories Analyzing Drinking Water" to address this recommendation further.

4	Encourage certification officers to use the following promising techniques, as noted in Chapter 3, already developed by other groups in laboratory oversight. In addition, encourage certified or accredited laboratories to engage in techniques b and c: (a) Enhance on-site and follow up audits to include techniques to identify and deter inappropriate procedures and fraud, (b) Use data validation and verification techniques, (c) Use analyst notation and sign manual integration changes to data, (d) Review raw electronic data and use electronic data analysis/tape audits, (e) Review inventory of laboratory supplies, (f) Include double blind proficiency testing samples reform (or a combination of double blind and split sample analysis), (g) Conduct data accuracy reviews.	OGWDW discussed these items during the aforementioned presentations at the Drinking Water Laboratory Certification Officer courses for Chemistry and Microbiology. OGWDW indicated that it will continue this action annually at both courses. OGWDW is also in the process of developing the addendum to the "Manual for the Certification of Laboratories Analyzing Drinking Water" to address this recommendation further.
5	Reduce uncertainty associated with the integrity of drinking water laboratories as well as the occurrence of inappropriate procedures and fraud. At least every 3 years, perform a periodic assessment to: (a) Review the drinking water sample analysis process for the existence of vulnerabilities, (b) Assess the extent to which inappropriate and fraudulent procedures are occurring (using techniques described in Recommendation 4), (c) Assess the laboratory certification program as well as specific protection processes and techniques for effectiveness. Explore incentives to encourage States and laboratories to adopt innovative practices. As part of this periodic assessment, consider adjusting laboratory and certification method requirements and resource allocations if needed.	OGWDW addressed this subject during the on-site program reviews at Region 8 in January 2007 and at Region 10 in March 2007. It was also to be addressed during the on-site review at Region 6, scheduled for October 2007. In addition, OGWDW held monthly conference calls with the Regional Certification Officers in December 2006 and March 2007. Lastly, OGWDW included targeted questions regarding techniques that were used for each of the issue areas in the 2007 Annual Regional Laboratory Certification Program Questionnaire. OGWDW is currently compiling and assessing the results from this questionnaire.
6	Set up a work group – including representatives from regions, States and laboratories – to review the sample collection requirements and seek opportunities to minimize vulnerabilities.	As noted above, targeted questions regarding vulnerabilities in sample collection were included in the 2007 Annual Regional Laboratory Certification Program Questionnaire. OGWDW is currently compiling and assessing the results from this questionnaire. OGWDW also addressed sample collection issues in an October 2007 presentation to ASDWA.

7	Meet with Agency contract officers and the Office of Policy, Economics, and Innovation to determine if appropriate procurement guidance for EPA, States, and public water systems (including language similar to what is under development by the Department of Defense) specifying a list of prohibited practices and possible incentives for laboratories or analysts that meet higher integrity standards can be developed to offset economic pressures to cut corners.	Representatives of OGWDW, the EPA Office of Administration and Resources Management, and the Department of Defense met in July 2007 to discuss this subject. OGWDW and the Office of Administration and Resources Management are currently reviewing the draft Department of Defense procurement policy for possible application/adaptation to the drinking water program.
8	Provide the following training programs and guidance information for laboratories, as noted in Chapter 3, that analyze drinking water samples: (a) All certified laboratories should have an ethics policy/program, and (b) Encourage certified laboratories to implement a fraud detection and deterrence policy/program.	See actions listed under Recommendation 4 above.

Appendix C

Agency Response

MEMORANDUM

SUBJECT: Summary of Recent Developments in EPA's Drinking Water Program and Areas for Additional Focus, Assignment No. 2007-000952, Draft Report

FROM: Benjamin H. Grumbles
Assistant Administrator

TO: Dan Engelberg
Director of Program Evaluation
Office of the Inspector General

Thank you for the opportunity to comment on your Office's draft report, *Summary of Recent Developments in EPA's Drinking Water Program and Areas for Additional Focus*. The Office of Water (OW) appreciates the effort of Office of Inspector General (OIG) to respond to our request for a capping study to evaluate the range of drinking water program assessments that have been carried out over the past several years. My staff has provided technical and editorial comments on the text of the report under separate cover.

As your draft report describes, the program has undertaken a number of activities, some of which respond to recommendations made by the IG, Government Accountability Office and other organizations. We will continue to carry out efforts to address concerns raised in those reports and to carry out activities to strengthen the national program.

We believe that both the challenges you raised and the potential areas for future evaluation are appropriate. While we believe there are other areas that also warrant evaluation in the program, we will take your suggestions under consideration as we develop future plans.

Thank you again for the opportunity to comment on the draft report. If you have questions regarding our comments, please contact Cynthia C. Dougherty, Director, Office of Ground Water and Drinking Water, at (202) 564-3750.

Appendix D

Distribution

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