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

THE INSPECTOR GENERAL

May 22, 2003

MEMORANDUM

SUBJECT: EPA's Key Management Challenges

TO: Christine Todd Whitman
Administrator

The Office of Inspector General (OIG) has identified the items listed below as key management challenges confronting the U.S. Environmental Protection Agency (EPA). While EPA has made continued progress on most challenges, the list includes the same management challenges we reported last year. The challenges are tiered to reflect what we consider to be the severity of their impact on EPA's mission.

Tier 1

Linking Mission and Management
Information Resources Management and Data Quality
Human Capital Management (formerly Employee Competencies)
EPA's Use of Assistance Agreements to Accomplish Its Mission
Protecting Critical Infrastructure From Non-Traditional Attacks
Challenges in Addressing Air Toxics Program Phase 1 and Phase 2 Goals

Tier 2

EPA's Working Relationship with the States
EPA's Information Systems Security
Backlog of National Pollutant Discharge Elimination System Permits
Management of Biosolids

Most of the challenges correspond to the President's Management Agenda Initiatives (PMAI). For example, *Linking Mission and Management* and *EPA's Working Relationship with the States* address the **PMAI for Budget and Performance Integration**, *Information Resources Management and Data Quality* and *EPA's Information Systems Security* address the **PMAI for Expanded Electronic Government**, *Human Capital Management* addresses the **PMAI for Strategic Management of Human Capital**, and *EPA's Use of Assistance Agreements to Accomplish Its Mission* addresses the **PMAI for Improving Financial Performance.**

We are not recommending any new management challenges at this time. However, our ongoing work indicates possible challenges in the following areas: (1) leadership expectations and funding challenges in the Agency's World Trade Center response, (2) planning, preparing and managing the Permit Compliance System, (3) the Agency's approach to hardrock mining cleanups, (4) developing Brownfield and Superfund program performance measures, (5) integrating environmental justice into agency programs, (6) linking resources to planned activities and outputs in children's health, (7) information to manage enforcement and compliance assurance activities, and (8) Homeland Security.

Should your staff have any questions, please have them contact Elissa Karpf, Assistant Inspector General for Planning, Analysis and Results at (202) 566-2604.

/signed/ John T. Walsh for

Nikki L. Tinsley

Attachment

TIER 1

Linking Mission and Management

EPA can be viewed as a business which must deliver improved environmental and human health protection to its customers, the American people, at a reasonable cost. To tell its story of performance in relationship to goals, the Agency must continue to develop more outcome-based strategic and annual targets in collaboration with its partners. EPA's Draft Strategic Plan attempts to do that. Its design is superior to preceding plans and includes: (1) recognition of Federal, State, and Tribal partners who implement the majority of Agency programs; (2) consideration of cross-media issues; (3) improved linkages to objectives and sub-objectives; (4) inclusion of a human capital strategy and external factors affecting each goal; and (5) increased focus on achieving measurable results by including elements of risk, cost/benefit analysis, stakeholder consultations, and science. The draft plan, however, still does not contain sufficient substantiative strategies nor commitments leading to the attainment of its stated goals. Moreover, EPA will need to align its systems and processes with the revised goals so progress against the goals can be measured through accurate, timely performance and cost data. As a first step, EPA is devising a new account structure to permit tracking of program/project and cross-agency activities[1].

Previously, EPA had output data on activities, but few environmental performance goals and measures, and little data supporting the Agency's ability to measure environmental outcomes and impacts. Reliance on output measures has made it difficult for EPA to provide regions and States the flexibility they need to: (1) direct resources to their highest priority activities, or (2) assess the impact of Agency work on human health and the environment. Better performance measurement and financial accountability can be achieved through clearly linked, meaningful performance measures with defined environmental outcome goals. To be accountable to the American people, EPA and its partners need to capture and report consistently meaningful and timely environmental and human health results, along with cost information[2].

This Spring, the Administrator plans to issue the first draft *Report on the Environment* which will bring together national, regional, and program office indicator efforts to describe the condition of critical environmental areas and human health concerns. Perfecting this report will be a multi-year process, but preparing the report is a significant step forward. It will allow the Agency to inventory and report on existing indicators, identify data gaps, and develop plans to address the challenges in filling these gaps[3].

Last year, in response to the need for reliable cost information, the Office of the Chief Financial Officer (OCFO) purchased a financial management business intelligence reporting tool for managerial cost accounting and reporting. OCFO is working with selected offices to define and develop program-specific and executive reports that may help managers analyze data to support

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[1] Introduction section, EPA's Draft Strategic Plan, March 5, 2003, pages 4 through 8

[2] EPA Needs Better Integration of the National Environmental Performance Partnership System, March 31, 2000, Report Number 2000-M-000828, pages 3 and 4 http://www.epa.gov/oig/ereading_room/neppsppg.pdf

[3] EPA Strategic Information Plan: A Framework for the Future, July 29, 2002, page 11

resource decisions, manage costs, and gauge program results.[4] As EPA implements cost accounting, its success will rely on how well program offices: (1) define their mission-critical activities; (2) identify data needs, determine whether such data exists and, if so, where it resides and if not, how will it be gathered; (3) link information systems to optimize data usability and minimize data integrity concerns; and (4) technically design program-specific and executive cost reports using the new reporting tool. OCFO will need to work closely with each program office in these areas for its cost accounting solution to be successful agency-wide.

During the past year, EPA examined options for improvements in its ability to manage for results and account for resources. In November 2002, senior leaders issued a report to the Administrator recommending specific changes in four areas: Planning, Performance Measurement, Accountability and Feedback, and the Agency's Capacity to Manage for Results. The report also suggested improvements for the 2004 budget process[5].

While EPA has begun the process for linking costs to goals, it must follow through by continuing to work with its regional offices and State and Federal partners to develop appropriate outcome measures and accounting systems that track environmental and human health results across the Agency's new goal structure. This information must then become an integral part of senior management's decision-making process.

Information Resources Management and Data Quality

EPA faces a number of challenges with the data it uses to make decisions and monitor progress against environmental goals. Those challenges cover a broad range of inter-related activities including: using enterprise and data architecture strategies to guide the integration and management of data and make investment decisions; implementing data standards to facilitate data sharing; and establishing quality assurance practices to improve the reliability, accuracy, and scientific basis of environmental data, including data derived from laboratories. EPA and most States often apply different data definitions supporting their own information systems, and sometimes collect and input different data resulting in inconsistent, incomplete, or obsolete consolidated national data[6]. EPA acknowledges IRM data management and Results Based Information Technology Investment Policies as an Agency-level weaknesses and has specifically targeted various components for improvement. However, developing a robust data management program remains a complex effort, and several areas need to be completed[7].

While EPA has developed a Facility Registry System and several metadata registries, it has yet to implement a 1998, agreed-upon, OIG recommendation to formally revise its policies and

[4] Business Objects Implementation Plan, Office of the Chief Financial Officer, Office of the Comptroller, September 2002, page 3

[5] Managing for Improved Results, Recommendations for Linda Fisher, Deputy Administrator and Linda Combs, Chief Financial Officer, November 2002, Appendix 2

[6] EPA Strategic Information Plan: A Framework for the Future, July 29, 2002, page 8

[7] Office of Water Data Integration Efforts, Report Number E1NWG6-15-0001-8100177, June 22, 1998, page 5

procedures supporting an Agency standards program[8]. In 2002, EPA issued a new IRM Strategic Plan and the first version of its Target Enterprise Architecture to address integration and management of its environmental data[9]. Management should define other fundamental components of its Target Enterprise Architecture, such as the Geospatial Blueprint, for EPA's data management structure to continue to evolve.

To date, EPA has developed and formally approved nine data standards. EPA also continues to partner with the Environmental Data Standards Council to develop additional standards for environmental information collection and exchange[10]. However, the true challenge lies in the implementation of approved standards, because many parties must follow through for EPA and others to realize the benefits. Some of the approved standards will not be fully implemented until fiscal 2005, and some have only been implemented in a targeted set of national EPA systems. Other EPA systems will be allowed to accommodate such changes as part of their normal re-engineering schedule, and States will be allowed to decide whether or not to adopt these standards. Data standards are a fundamental component for implementing EPA's National Environmental Information Exchange Network and other e-government initiatives[11]. If EPA's exchange network infrastructure is to work effectively, timely implementation should be required for all applicable systems. Moreover, the use of data standards should be a required condition for receiving money under the Exchange Network Grant Program.

Data reliability is another major aspect of data management that needs further attention. Prior audits indicate systems used by EPA's Enforcement, Superfund, and Water programs have inconsistent, incomplete, and obsolete data. For example, the system EPA uses to manage its drinking water programs, SDWIS-FED, is not well-designed and implemented[12]. Also, data in two major Agency systems (National Enforcement DOCKET and Comprehensive Environmental Response, Compensation, and Liability Information System) contain significant error rates in crucial data fields used to track environmental progress on Government Performance and Results Act goals and measures.[13] For example, over 40 percent of on-site action data reviewed within EPA's Comprehensive Environmental Response, Compensation, and Liability Information System contained errors[14]. All EPA organizations that collect, evaluate or use environmental data must develop and implement Quality Management Plans. For a number of years, the Agency has reported the lack of approved Quality Management Plans as an Agency-level weakness. The Office of Environmental Information has taken a number of steps to

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[8] Ibid

[9] EPA Strategic Information Plan: A Framework for the Future, July 29, 2002, page iii

[10] EPA web site: www.epa.gov/edr - Data Standards page

[11] Ibid

[12] Office of Water Data Integration Efforts, Report Number E1NWG6-15-0001-8100177, June 22, 1998, page 8

[13] Executive Summaries: EPA Report 2002-P-00004, January 18, 2002 and 2002-P-00016, September 30, 2002

[14] Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Data Quality, Report Number 2002-P-00016, September 30, 2002, page 5

improve controls, however, some headquarters and regional offices have not developed new Quality Management Plans or revised expired ones.

The Agency has responded to data quality concerns by instituting an Integrated Error Correction Process, which also draws on a national data steward network to track and resolve reported data errors in eleven major data systems[15]. In addition, the Agency continues to develop its Data and Information Quality Strategic Plan to prioritize actions for improving the quality of currently collected data. Upon last review, the draft plan did not address the long-recognized problem of data gaps[16]. However, EPA plans to issue its first draft *Report on the Environment* in the Spring of 2003, which should help identify the gaps between existing and needed environmental data[17]. Consequently, the Agency expects to issue the final Data and Information Quality Strategic Plan sometime in fiscal 2004.

Questionable analyses by laboratories raise concerns about the effectiveness of environmental decisions and lead to additional costs and unnecessary delays when EPA has to identify and assess the impact of the fraudulent data and undertake additional sampling. In a June 1999 memorandum to the Acting Deputy Administrator, we suggested actions the Agency could take to better identify data of questionable quality[18]. Ongoing lab fraud investigations in FY 2002 and FY 2003 indicate that despite Agency efforts to ensure improved data quality, manipulated data continues to be generated and supplied to EPA.

Our reviews and investigations have disclosed a disturbing trend in the number of environmental laboratories that are providing misleading and fraudulent data to the States for monitoring the nation's public water supplies. For example, several current lab fraud investigations involve fraudulent manipulation of data used to evaluate the compliance of public water supplies with Federal drinking water standards. Many other EPA programs (e.g., Superfund, Resource Conservation and Recovery Act, National Pollutant Discharge Elimination System, air toxins, underground storage tanks, and pesticides) have also been impacted by laboratory fraud.[19]

The Agency has conducted extensive technical systems assessment audits at all EPA regional and research laboratories. In addition, EPA has provided fraud detection and awareness training and ethics training; studied electronic methods for screening data; and issued guidance discussing the level of quality assurance given the intended use of data[20]. These efforts should help to improve the quality assurance systems and documentation throughout the Agency's

[15] EPA Strategic Information Plan: A Framework for the Future, July 29, 2002, page 15

[16] OIG Comments to Data & Information Quality Strategic Plan, May 2001 and EPA Pre-Brief for the Quality and Information Council, May 24, 2001

[17] EPA Strategic Information Plan: A Framework for the Future, July 29, 2002, page 12

[18] Memorandum to the Acting Deputy Administrator: Laboratory Fraud: Deterrence and Detection, June 25, 1999, pages 1 and 3

[19] Ibid

[20] Memorandum to the Acting Deputy Administrator: Laboratory Fraud: Deterrence and Detection, June 25, 1999, pages 6 through 8

environmental laboratories as well as those laboratories under state oversight. However, until the impact of these and any other recommended actions is realized, EPA must continue to assess and improve its controls over laboratory data quality. In its mid-year Federal Financial Managers' Integrity Act report for FY 2003, the Agency considered laboratory quality to be an Agency-level weakness.

Considering the remaining shortcomings in these areas, it is unlikely EPA will have the foundation it needs to share comparable information, monitor environmental activities, or compare progress across the nation in the near future. Moreover, EPA's ability to enforce environmental laws and evaluate the outcomes of its programs in terms of environmental changes may continue to be limited by gaps and inconsistencies in the quality of its data. EPA needs to continue its efforts to identify what data is necessary to manage its programs, and work with its partners to ensure that such information is captured and reported in a timely, accurate, and consistent manner.

Human Capital Management (Formerly Employees Competencies)

The Agency recognizes one of its biggest challenges is the development and implementation of a human capital management strategy that will result in a competent, well-trained, and motivated workforce with the right mix of skills and experience to achieve environmental goals and objectives.[21] Human Capital Management is also one of the President's Management Agenda Initiatives. The General Accounting Office (GAO) has designated it a government-wide high-risk area because planning is weak in most agencies, and workforce deficiencies will be exacerbated by the upcoming retirement wave of the baby-boom generation. In the near term, agencies are expected to link human capital strategies to their mission, use strategic workforce planning to develop a high-performing workforce, and determine their "core competencies."[22]

GAO recently reported that EPA, like many Federal agencies, has historically given insufficient attention to strategically managing its human capital. To face critical agency-wide human capital challenges, EPA will need to develop a system, supported by reliable and valid workforce data, to ensure that it is hiring the right number and type of people, as well as allocating its existing resources to effectively meet current or future mission needs. While EPA has not yet comprehensively assessed its workforce, it has developed a National Strategic Workforce Planning System that should, among other things, help management identify the technical skills and the number and type of positions required, inventory the skills of the current workforce, examine attrition rates, and forecast the number of new hires required. However, as GAO noted, it is too early to determine how the new system will affect the EPA's ability to systematically allocate staff. The Agency's ability to make difficult staffing decisions also will be compounded by other significant factors. For example, EPA's workforce planning will need to incorporate the implications of other major management initiatives, and take into account the extensive use of grants to States and awards to contractors to perform EPA's work. As such, EPA must ultimately plan for a workforce that is adept at both delivering services directly and managing

[21] EPA Draft 2003 Strategic Plan, Cross-Goal Strategies, pages 16-22; also EPA's FY 20022 Annual Report, III-16

[22] The President's Management Agenda, FY 2002, page 12
http://www.whitehouse.gov/omb/budget/fy2002/mgmt.pdf

the cost and quality of services delivered by third parties on the government's behalf .[23]

In addition to piloting a National Strategic Workforce Planning System, EPA has other human capital initiatives aimed at investing in its employees and addressing the skill base needed to accomplish its mission. For example, EPA's Strategy for Human Capital, as proposed in EPA's Draft Strategic Plan, establishes objectives for the Agency which are aligned with the Office of Personnel Management's six pillars of effective human capital management.[24] In addition, EPA's Five-Year Restructuring Plan focuses on how the Agency will address its most critical workforce issues, such as strategic and workforce planning, potential skill imbalances, the quality of science, information technology skills, quality of contracts, and grants oversight.[25] EPA's Senior Executive Service candidate development and mobility programs are additional examples of initiatives aimed at systematically managing succession planning.

While progress has been made and additional work is planned, this area continues to be a key challenge. We will continue to monitor the Agency's progress in developing a system that ensures a well-trained and motivated workforce with the right mix of skills and experience. Implementation of the Human Capital Strategic Plan is an Agency-level weakness under the Federal Managers' Financial Integrity Act.

EPA's Use of Assistance Agreements to Accomplish Its Mission

Assistance agreements are a primary means EPA uses to carry out its mission of protecting human health and the environment. More than half of EPA's fiscal 2002 budget was awarded to organizations outside the Agency through assistance agreements. Because the amount is large, approximately $4.7 billion dollars, and it's the primary mechanism EPA uses to fulfill its mission, it is imperative that the Agency use good management practices in awarding and overseeing these agreements to ensure they cost effectively contribute to attaining environmental goals.

EPA's management of assistance agreements has been an area of emphasis for the Inspector General's office for many years. Our grants management work has focused on crosscutting national issues and has included grants made to States, local and tribal governments, and not-for-profit organizations. We have looked at EPA's major program areas, in EPA headquarters and in EPA regions. We have found that there continues to be systemic weaknesses in how EPA manages assistance agreements.

The OIG has issued several reports since 1998 reporting deficiencies in the EPA's review of assistance agreements prior to the award. In March 2003, we reported that project officers did not perform all necessary steps when conducting pre-award reviews of assistance agreement applications.[26] Specifically, we noted the following in our sample of grants:

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[23]General Accounting Office Report: Performance And Accountability Series, Major Management Challenges and Program Risks Environmental Protection Agency, Report Number GAO-03-112, January 2003 http://www.gao.gov/

[24]EPA's Draft 2003 Strategic Plan, Cross-Goal Strategies, page 16

[25]EPA's Five-Year Restructuring Plan, May 2002, page 7

[26]EPA Must Emphasize Importance of Pre-Award Review, 2003-P-00007 (March 31, 2003)

1. A link was missing between projects funded and Agency mission (19%).
2. EPA did not assess probability of success prior to award (31%).
3. EPA did not determine reasonableness of proposed project costs (79%).
4. Outcomes were not negotiated (42%).
5. Milestones and deliverables were not included in workplans (24%).
6. EPA did not implement new workplan regulations designed to improve fiscal management and accountability (96%).

Excluding State Revolving Funds, construction grants, and fellowship grants, the Offices of Water and Air and Radiation, and related regional offices, issued about $1 billion in assistance agreements in fiscal 2001. Thus, for example, based on our random sample, in fiscal 2001 these offices awarded at least (1) $42 million without determining the relevance of proposed workplans to EPA program objectives; (2) $88 million without assurance that recipients were able to perform projects that would help accomplish program objectives; and (3) $536 million without performing cost reviews.

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http://www.epa.gov/oig/ereading_room/epa_must_emphasize_importance_of_pre-award_reviews_for_assistance_agreements.pdf

OIG reports also continue to identify examples of EPA staff not adequately overseeing recipients of assistance agreements awarded to States for environmental programs. A February 2003 report found that EPA Region 6's oversight of Louisiana was insufficient and could not assure the public that Louisiana was protecting the environment.[27] We initiated this review because EPA had received petitions from citizen groups to withdraw the National Pollutant Discharge Elimination System water program, the Resource Conservation and Recovery Act hazardous waste program, and the Title V air permit programs from Louisiana.

EPA's lack of review and oversight can contribute to problems with grantees. For example, we questioned $1.6 million in costs claimed by a recipient for, among other things, improper procurement.[28] The recipient did not competitively procure equipment and services, and did not perform cost or price analysis for the purchases.

Deficiencies in EPA's pre-award reviews and post-award oversight were not due to the lack of policies, but rather existing policies and guidance were not always followed. EPA policies and guidance identify the reviews EPA staff are to perform prior to and after assistance agreements are awarded. However, EPA staff did not always follow the policies and were not held accountable when they did not do so.

If EPA is to improve its management of assistance agreements, it needs to allocate adequate resources to the function and hold management and staff accountable for adhering to Agency policies that promote good management of assistance agreements. In April 2003, EPA issued a Grants Management plan that includes actions to address recommendations the OIG has made in recent audit reports. The challenge for EPA management and staff will be implementing the corrective actions and incorporating new practices into the day-to-day management of assistance agreements. We are recommending the Agency elevate this issue from an Agency-level weakness to a material weakness under the Federal Managers' Financial Integrity Act.

Protecting Critical Infrastructure From Non-Traditional Attacks

EPA continues to execute its responsibilities to protect critical physical and cyber-based infrastructures per Presidential Decision Directive 63 issued in May 1998[29]. The terrorist attacks of September 11, 2001, greatly increased the scope and priority of EPA's critical infrastructure protection mission[30]. While EPA outlined its critical infrastructure protection goals in the

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[27] EPA Region 6 Needs to Improve Oversight of Louisiana's Environmental Programs, 2003-P-00005 (February 3, 2003) http://www.epa.gov/oig/ereading_room/2003-p-0005.pdf

[28] Costs Claimed by Central States Air Resource Agencies Association Under EPA Assistance Agreement No.X996940-01 and X986516-01, 2003-1-00087 (March 31, 2003)

[29] 10/25/01 Internal memo: Mehan to Chan re: Completion of Activities Under Presidential Decision Directive (PDD) 63 in Relation to OIG Report No. 2001-P-00010; Undated internal memo: O'Connor & Horinko to Chan re: Comments on the Office of Administration and Resources Management and Office of Solid Waste and Emergency Response's response to OIG Report, " Review of EPA's Adherence to Presidential Decision Directive (PDD 63) Requirements."

[30] USEPA Strategic Plan for Homeland Security, October 2002, cover memo; http://epa.gov/epahome/headline_100202.htm ;

Agency's September 2002 *Strategic Plan for Homeland Security*, the Agency needs to continue refining its performance expectations and measures to demonstrate improvements in key asset security[31].

The Office of Homeland Security issued its *National Strategy for Homeland Security* in July 2002[32], and its *National Strategy for the Physical Protection of Critical Infrastructures and Key Assets* in February 2003[33]. Both *Strategies* designate EPA as the lead agency for protecting critical infrastructure and key assets in the water and chemical industry and hazardous materials sector[34]. EPA's lead agency designation complements the Agency's traditional roles of: oversight in water and wastewater infrastructure security; cleanup of chemical, biological, and

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[31] USEPA Strategic Plan for Homeland Security, October 2002; http://epa.gov/epahome/headline_100202.htm ; EPA's Implementation of PDD 63, June 20, 2001, No. 2001-P-00010

[32] The National Strategy for Homeland Security, Department of Homeland Security, July 2002 http://www.whitehouse.gov/homeland/book/index.html

[33] Department of Homeland Security National Strategy for the Physical Protection of Critical Infrastructures and Key Assets , February 2003 http://www.whitehouse.gov/pcipb/physical.html

[34] The National Strategy for Homeland Security, Department of Homeland Security, July 2002, pg 18 http://www.whitehouse.gov/homeland/book/index.html and Department of Homeland Security National Strategy for the Physical Protection of Critical Infrastructures and Key Assets , February 2003, p. 39, 66 http://www.whitehouse.gov/pcipb/physical.html

certain radiological attacks; and regulation over chemical facilities[35]. Moreover, Public Law 107-188, the Public Health Security and Bioterrorism Preparedness and Response Act, signed in June 2002, specifically tasked EPA with funding and overseeing water system vulnerability assessments and resulting emergency response plans[36]. EPA further defined its infrastructure protection needs through the lessons the Agency learned from the World Trade Center response and the cleanup of Anthrax-contaminated buildings[37].

To ensure the desired state of security and achieve the goals in EPA's *Strategic Plan for Homeland Security*, the Agency will need to apply technical, organizational, resource, training, and communication assets to complex issues with unprecedented dispatch.[38] Critical infrastructure protection efforts already undertaken by the Agency include:

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[35] USEPA Strategic Plan for Homeland Security, October 2002; http://epa.gov/epahome/headline_100202.htm ; Letter from the Administrator, parargraph 2

[36] Public Law 107-188, the Public Health Security and Bioterrorism Preparedness and Response Act, signed in June 2002, sec. 401 http://thomas.loc.gov/cgi-bin/query/z?c107:H.R.3448.ENR:

[37] Internal Working documents cross walking lessons learned reports into Homeland Security action Plans and USEPA Strategic Plan for Homeland Security , October 2002, pg ii, http://epa.gov/epahome/headline_100202.htm .

[38] USEPA Strategic Plan for Homeland Security, October 2002; http://epa.gov/epahome/headline_100202.htm ; and OIG opinion

- facilitating the development of water system vulnerability assessment methodology and training[39];
- providing financial assistance to large drinking water systems to conduct one-time vulnerability assessments and grants to States to provide vulnerability assessment training and technical assistance to medium and small water systems[40];
- providing baseline threat guidance to water utilities[41]; and
- collaborating with other federal stakeholders to develop guidance on protecting building environments from airborne attacks[42].

EPA's efforts to enhance critical infrastructure protection are commendable, however, EPA will need to better define performance expectations and develop systems to effectively measure and analyze program performance. The Agency's success will require simultaneous attention to questions of threat, capabilities and deficiencies, preparedness, management and oversight, as well as effective coordination with EPA's partners at all levels of government and industry[43].

Challenges in Addressing Air Toxics Program Phase 1 and Phase 2 Goals

Toxic air pollution remains one of the most significant health and environmental problems in the U.S., causing cancer, neurological, immunological, and other serious health problems.[44] EPA's goal is to eliminate the risks of cancer and other significant health problems from air toxics emissions for 95 percent of the U.S. population by 2020.[45] EPA has increased its efforts to address Phase 1 and Phase 2 air toxics goals as evidenced by a 43 percent increase in funding over the past 5 years, from $89.9 million in FY 1999 to a FY 2004 budget request of $127.7 million.[46]

EPA has been implementing a two-phase program to reduce air toxics emissions from major stationary sources. Phase 1 is solely a technology-based approach to reducing air toxics, while

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[39] Water Infrastructure Security http://www.epa.gov/safewater/security/index.html , Vulnerability Assessment Fact Sheet http://epa.gov/safewater/security/va_fact_sheet_12-19.pdf

[40] Water Infrastructure Security http://www.epa.gov/safewater/security/index.html

[41] EPA's Baseline Threat Guidance to Water Utilities http://www.epa.gov/safewater/security/index.html

[42] USEPA Strategic Plan for Homeland Security, October 2002; pg 9 2nd to last bullet http://epa.gov/epahome/headline_100202.htm

[43] USEPA Strategic Plan for Homeland Security, October 2002, pg i, paragraph 2 and 4 http://epa.gov/epahome/headline_100202.htm

[44] The Clean Air Act Amendments of 1990 - Summary Materials," Office Of Air and Radiation (OAR), U.S. Environmental Protection Agency, November 15, 1990; and "Control Of Emissions Of Hazardous Air Pollutants from Mobile Sources: Response to Comments," EPA-420-R-00-024, December 2000, p. 15; and EPA FY-2003 Annual Plan, p. I-3; "Taking Toxics Out of the Air: Progress in Setting "Maximum Achieveable Control Technology" Standards Under the Clean Air Act," EPA-452/K-00-002, August 2000.

[45] FY 2002 Final Annual Performance Plan http://www.epa.gov/ocfo/budget/2002/2002final/01_1v.pdf

[46] EPA's Air Toxics Budget FY 2000 - 2004 - By Office & Appropriation - Office of the Chief Financial Officer, Annual Planning and Budget Division.

Phase 2 assesses the level of risk remaining after the Phase 1 controls are in place.[47] Despite the potential for serious harm, EPA is over 2 years behind in fulfilling its statutory responsibilities for issuing all Phase 1 air toxics standards (also known as MACT[i] standards[48]) by the November 2000 statutory deadline.[49] Recently, however, EPA has made substantial progress and has 79 MACT standards promulgated and the remaining 19 standards proposed, with an expected completion date of February 2004.[50] When completed, these 98 MACT standards will address air toxics emissions from the 174 categories EPA is required to regulate.[51] EPA's delay in issuing the Phase 1 MACT standards was identified as a material weakness in 2001.[52]

EPA is continuing to shift the emphasis from Phase 1 to Phase 2, and is currently assessing the toxic health risks from more than 1,000 sources in 20 source categories.[53] However, no Phase 2 residual risk standards have yet been completed, although 7 risk assessments were due by the end of 2002.[54] The Science Advisory Board has questioned EPA's early efforts at assessing residual risks.[55] Although the Clean Air Act Amendments of 1990 listed 188 air toxics that EPA must control, to date the Agency has focused largely on 33 of the suspected worse air toxics prevalent

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[47] FY 2004 Annual Performance Plan and Congressional Justification - Clean Air - Objective: Reduce Air Toxics Risk, page I-57.

[48] United States Court of Appeals, District of Columbia Circuit, Case No. 97-1686, March 2, 1999, Sierra Club and Natural Resources Defense Council, Petitioners v. EPA and Integrated Waste Services Association and Pharmaceutical Research and Manufacturers of America, Intervenors.

[49] FY-2002 Integrity Act Annual Assurance Letter from Jeffrey R. Holmstead, AA for OAR, to Christine Todd Whitman, Administrator, EPA, pp. 4-5; and United States Court of Appeals, District of Columbia Circuit, Case No. 02-1135 and consolidated cases, Nov. 26, 2002, Sierra Club, Petitioner v. EPA-Settlement Agreement, pp. 1-13.

[50] Teresa Clemons, EPA's Office of Air and Radiation, Office of Air Quality Planning and Standards, Emissions Standards Division, April 2003.

[51] U.S. Environmental Protection Agency Workplan for the National Air Toxics Program and Integrated Air Toxics State/Local/Tribal Program Structure, September 2001, p. 2-1.

[52] FY-2002 Integrity Act Annual Assurance Letter from Jeffrey R. Holmstead, AA for OAR, to Christine Todd Whitman, Administrator, EPA, p. 4.

[53] April 9, 2003 memorandum from Linda Combs (OCFO) to Assistant Administrators, General Counsel, Inspector General, Associate Administrators and Regional Administrators on FY 2003 Mid-Year Management Integrity Review, Agency-level Weakness #8, page 3.

[54] "Status of the MACT and Residual Risk Programs," briefing by K.C. Hustvedt, Emissions Standards Division, Office of Air Quality Planning and Standards, Office of Air and Radiation, EPA, Nov. 15, 2001, http://www.4cleanair.org/members/committee/airtoxics/Hustvedt.pdf ; and October 31, 2002 Integrated Air Toxics Briefing for the OIG, Beth Craig, Deputy Assistant Administrator, Office of Air and Radiation, EPA.

[55] Letter from Dr. Morton Lippman, Interim Chair, Science Advisory Board (SAB), to Carol M. Browner, (former) Administrator, EPA, EPA-SAB-EC-00-005 July 25, 2000, pp. 1-2; Executive Committee Commentary on Residual Risk Program; EPA-SAB-EC-00-015, July 25, 2000, pp.1-4,and 8-9,; and "NATA-Evaluating the National Scale Air Toxics Assessment 1996 Data-An SAB Advisory," EPA-SAB-ED-ADV-02-001, December 2001; and Workshop on the Benefits of Reductions in Exposure to Hazardous Air Pollutants: Developing Best Estimates of Dose-Response Functions, EPA-SAB-EC-WKSHP-02-001, Jan. 2002.

in urban areas.[56] Significant data gaps in our understanding of these 33 highest priority air toxics still exist.[57] Additionally, EPA has limited health and ecological effects information, exposure data, emissions data, source characterization data, and ambient data on many of the remaining 155 air toxics.[58]

Emissions from mobile sources comprise about half of the air toxics emissions inventory,[59] with area sources and major stationary sources accounting for about 25 percent each.[60] For major stationary sources, the air toxics program relies heavily on industry emissions data for its Government Performance Results Act measures, some of which are generated by using inferior emission estimation techniques.[61] The lack of a robust set of ambient monitoring data on the quantity and concentrations of air toxics is also a concern.[62] There is also little health data on the synergistic impacts of exposures to multiple air toxics, such as the exposures that routinely occur in urban areas - - the types of exposures that some scientists believe are the leading health impact from air toxics.[63] We will continue to monitor the progress EPA makes in addressing these important issues.[64] In the Agency's mid-year Federal Managers' Financial Integrity Act

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[56] U.S. Environmental Protection Agency Workplan for the National Air Toxics Program and Integrated Air Toxics State/Local/Tribal Program Structure, September 2001, pp. 2-2 ; "National Scale Air Toxics Assessment Program: Overview - the 33 Pollutants"; http://www.epa.gov/ttn/atw/nata/34poll.html and "The National Scale Air Toxics Assessment"; http://www.epa.gov/ttn/atw/nata/

[57] EPA-SAB-EC-ADV-00-005; An SAB Advisory on NATA - Evaluating the National-Scale Air Toxics Assessment 1996 Data; December 2001. Page2, Recommendations 3 and 4.

[58] "An SAB Advisory on the USEPA's Draft Case Study Analysis of the Residual Risk of Secondary Lead Smelters," EPA-SAB-EC-ADV-00-005, May 2000, pages 2-3; U.S. Environmental Protection Agency Workplan for the National Air Toxics Program and Integrated Air Toxics State/Local/Tribal Program Structure, September 2001, p. 2-15 to 3-12; and EPA's 08/31/00 FY-2002 GPRA Goal 1: Clean Air, Objective 1.2: Reducing Air Toxics, Sub-objective 1.2.1: Air Toxics, ORD BACKGROUND, pp. 5 -7, "EPA Science Forum 2000: Meeting the Challenges," (abstracts, presentations, and proceedings); and "2002 Air Toxics Implementation Workshop," April 9-11, 2002.; "Airborne: Hazardous Air Pollutants Causing Human Health Risks and Ecological Damage Go Unregulated - - A Report On EPA's Failure to Regulate Hazardous Air Pollutants," Williams, Jane, Chair-Combustion Task Force, Sierra Club, April 2002

[59] "Control Of Emissions Of Hazardous Air Pollutants from Mobile Sources: Response to Comments," EPA-420-R-00-024, December 2000, p. 14.

[60] National Air Quality and Emissions Trends Report, 199, Chapter 5 Air Toxics, page 82.

[61] "Discussion Paper for CASAC-Diesel Health Assessment Issues," NCEA-W-0634, May 1999, pp. 10 - 15; Limitations in the 1996 National-Scale Air Toxics Assessment, pp. 1-4, http://www.epa.gov/ttn/atw/nata/natsalim.html.; Introduction to AP-42, Volume I, Fifth Edition -- January 1995, pp. 1-5; and "Locating and Estimating Air Emissions from Sources of 1,3 Butadiene," EPA-454/R-96-008, November 1996.

[62] "Air Toxics Monitoring Newsletter," a publication of the STAPPA/ALAPCO/USEPA Monitoring Steering Committee, January 2002, pp 1-2.

[63] "Framework for Cumulative Risk Assessment (External Review Draft)," April 23, 2002, U.S. Environmental Protection Agency, Risk Assessment Forum, Washington, DC; and FY-2002 Integrity Act Annual Assurance Letter from Jeffrey R. Holmstead, AA for OAR, to Christine Todd Whitman, Administrator, EPA, p. 4.

[64] EPA Office of Inspector General (OIG) Multi-Year Plan, March 2003

(FMFIA) Report for FY 2003, the Agency identified Challenges in addressing Air Toxics Program Phase 1 and Phase 2 goals as an Agency-level weakness.

TIER 2

EPA's Working Relationship With the States

According to the Environmental Council of the States, in FY 2001, the authority to implement about 80 percent of the environmental programs rested with the States, which provided about 65 percent of the financial resources to EPA's 35 percent. Accordingly, the Agency relies to a great extent on States for environmental results and for the data used to measure environmental conditions and performance. Yet, the Agency and States have been unable to agree on state flexibility and accountability issues. Relations remain strained due to disagreements over: (1) respective roles and the extent of federal oversight; (2) priorities and budgets; and (3) results-oriented performance measures, milestones, and data. EPA can improve its working relationship with States by establishing a structure to mutually set direction, establish goals, provide training, oversee accomplishments, and ensure accountability.[65]

The National Environmental Performance Partnership System (NEPPS) established EPA-state working partnerships to accomplish complex environmental issues with scarce resources. One of the primary tools for implementing NEPPS, performance partnership grants (PPGs), allows States and tribes to combine multiple EPA grants into one. In 1999 and 2000, a series of OIG audits on regional and state NEPPS program implementation (including PPGs) reported that NEPPS principles were not well-integrated into EPA because of the lack of: (1) leadership providing a clear direction and expectations, (2) training and guidance, (3) trust in NEPPS due to fear of change and losing control, and (4) goals and related performance measures to monitor and measure progress on achieving better environmental results.[66]

Recent OIG audits have found that EPA needs to continue to make improvements in the implementation of NEPPS. A 2002 audit of state self assessments of environmental programs, one component of NEPPS, found that EPA and the States had not widely adopted the concept. Many States were not performing self assessments, their content varied, and they had little impact on the environmental performance agreement. This had occurred because EPA had not taken a leadership role to define to staff and States its expectations for self assessments. Subsequent to the report, the Agency decided to pursue an improved priority setting and joint evaluation process, as described in EPA regulations, as opposed to the self assessment process. EPA management needs to define the expectation for the joint evaluation process if it is to contribute to a more effective partnership with States.[67]

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http://www.epa.gov/oig/ereading_room/Multi-YearPlan2003-2005.pdf

[65] *EPA's Progress Using the Government Performance and Results Act to Manage for Results*, June 13, 2001, Report No. 2001-B-000001 http://www.epa.gov/oig/ereading_room/gpra.pdf

[66] *EPA Needs Better Integration of the National Environmental Performance Partnership* System, March 31, 2000, Report No. 2000-M-000828-000011 http://www.epa.gov/oig/ereading_room/neppsppg.pdf

[67] *EPA Needs to More Actively Promote State Self Assessment of Environmental Programs,* December 27, 2002, Report No. 2003-P-00004 http://www.epa.gov/oig/ereading_room/audit-2003-P-00004.pdf

If EPA is to have a productive relationship with States, it also needs to more clearly define its role in overseeing state programs. A 2003 OIG audit found that Region 6 leadership did not develop and clearly communicate a vision and measurable goals for its oversight of one its States, Louisiana. This contributed to a strained working relationship with Louisiana. Region 6 leadership also had not defined what a successful oversight program should be, and had not identified the means for measuring the value of its oversight, which resulted in the region not being able to determine whether its oversight was successful.[68]

In 2003, the Administrator committed to streamline and improve how EPA and States deliver environmental protection, and encouraged States to take full advantage of NEPPS and PPGs. To advance partnerships, EPA is working to improve the (a) role of States in the planning and budgeting process, (b) process for awarding PPGs, (c) joint evaluation process, and (d) performance measurement process.

EPA's Information Systems Security

EPA's information systems collect, process, store, and disseminate vast amounts of information used to help make sound regulatory and program decisions. Protecting them is as important as protecting other organizational resources, such as money, physical assets, or employees. Therefore, it is essential that the Agency prevent intrusion and abuse of these systems and protect the integrity of its data.

Under the leadership of the Office of Environmental Information (OEI), EPA's goal is to make information on its computer systems available, while protecting the confidentiality and integrity of its information.[69] As indicated in its second annual report to the Office of Management and Budget, EPA continues to enhance its Information Security Program through continuing risk assessments of its major systems, monitoring networked servers, using security self-assessments that conform to government-recognized guidelines, conducting internal and external network penetration tests, and monitoring the Agency's firewall and intrusion detection system.[70] These positive actions resulted in downgrading information security to an Agency-level weakness under the Integrity Act.

The dynamic nature of security, however, requires continued emphasis and vigilance, and we

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[68] *EPA Region 6 Needs to Improve Oversight of Louisiana's Environmental Programs*, February 3, 2003, Report No. 2003-P-00005 http://www.epa.gov/oig/ereading_room/2003-p-0005.pdf

[69] EPA Strategic Information Plan, page iii

[70] EPA FY 2002 Report to OMB on the Government Information Security Reform Act, page 9

believe the following additional actions are needed to protect EPA's information and systems.

- Provide greater assurance of protecting its critical information technology (IT) infrastructure. Specifically, EPA should ensure backup procedures are established at all critical sites, and plan and conduct tests of its contingency capabilities. Furthermore, the Chief Information Officer should exercise oversight to ensure appropriate offices allocate sufficient resources to complete planned corrective actions that will mitigate vulnerabilities previously identified by the General Accounting Office.[71]

- Establish a robust quality assurance program. OEI needs to increase its oversight activities that (1) independently verify and validate the implementation of the security program, and (2) evaluate the performance of major agency components.[72] For example, ongoing audit work shows that OEI relies on, and subsequently reports to OMB, a significant percentage of inaccurate and unsupportable information which it has collected through annual system security self-assessments.[73] Other audit work also determined that OEI needs to do more to ensure EPA program officials assess the risks to operations and assets under their control and determine the level of security appropriate to protect such assets and operations.[74] Without regular, effective oversight processes, EPA will continue to place unsubstantiated trust in its many components to fully implement, practice, and document security requirements.[75]

- Establish an effective security training program that (1) identifies IT security personnel associated with overseeing, managing, or maintaining critical cyber-based assets, and (2) establishes baseline security training requirements for these personnel.[76]

- Establish a process to ensure that the Agency's information security plan is practiced throughout the life cycle of IT systems. Specifically, EPA needs to update security plan policies and guidance to align them with current federal standards and set milestone dates when plans will be in compliance.[77] Additionally, EPA needs to update policies and guidance for Systems Life Cycle Management to incorporate security planning.[78]

- Establish a process to complete timely background investigations on contractor personnel who, by the nature of their work, have access to sensitive and/or confidential files. At this time there are contract employees with such access who have not received any

[71]Executive Summary, OIG report 2003-P-00009, page i

[72]OIG Report 2002-S-00017, page 8

[73]Draft Report on EPA's Computer Security Self-Assessment Process Needs Improvement

[74]OIG Report 2002-S-00017, page 6

[75]OIG Report 2001-P-00016, page 21

[76]OIG Report 2003-P-00009, page 14

[77]OIG Report 2003-P-00009, page 13 and OIG Report 2002-S-00017, page 6

[78]OIG Report 2002-S-00017, page 3

clearance. During the last year a contract employee who had access to CBI information was arrested on a felony warrant. Employees within OEI have openly commented that the failure to have background checks on all contract personnel still exists. This issue keeps the Agency at risk from the leaking or outright theft of Agency controlled information, or destruction of that information. It also opens the risk of network monitoring or tampering by a contract employee with elevated user access rights.

Backlog of National Pollutant Discharge Elimination System (NPDES) Permits

The Clean Water Act specifies that NPDES permits expire in five years.[79] Permittees wishing to continue discharging beyond that term must apply for permit renewal at least six months prior to the expiration date of their permit.[80] If the permitting authority receives a renewal application but does not reissue the permit prior to expiration, the permit may be "administratively continued."[81]
Administratively continued, or "backlogged," permits are a major concern because conditions may have subsequently changed since the original permit was issued, and new restrictions on permits may now apply. However, "backlogged" permits would not contain these new terms and conditions, thereby delaying potential environmental improvements to waters.[82]

The Agency recognizes that the backlog of NPDES permits is a nationwide problem and has developed a corrective action plan.[83] The plan includes (1) using new technology to streamline the permit development process, (2) providing environmental assessments and permit assistance to the States, and (3) communicating the importance of this issue to the States and EPA regional offices and receiving their firm commitments to reduce the backlog.[84]

The NPDES permit backlog has been tracked by the Agency as a FMFIA material weakness since 1998 until its reduction in status to an Agency level weakness at the end of 2002.[85] The

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[79] EPA internet document. "Backlog Reduction: Overview" (available at: http://cfpub.epa.gov/npdes/permitissuance/backlog.cfm, last visited December 23, 2002).

[80] EPA internet document. "Backlog Reduction: Overview" (available at: http://cfpub.epa.gov/npdes/permitissuance/backlog.cfm, last visited December 23, 2002).

[81] EPA internet document. "Backlog Reduction: Overview" (available at: http://cfpub.epa.gov/npdes/permitissuance/backlog.cfm, last visited December 23, 2002).

[82] EPA. "Fact Sheet - - NPDES permit backlog reduction." page 1 (available in pdf format at: http://cfpub.epa.gov/npdes/permitissuance/reductiondocs.cfm, last visited December 23, 2002).

[83] EPA/OW/OWM. "Interim Framework to Ensure Issuance of Timely and High Quality NPDES Permits (Approaches for reducing the NPDES permit backlog)." (July 28, 1999). (Available in pdf format at: http://cfpub.epa.gov/npdes/permitissuance/reductiondocs.cfm, last visited December 23, 2002); EPA. Fiscal Year 2001 Annual Report. Page III-17. Document available in pdf format through http://www.epa.gov/ocfopage/finstatement/2001ar/2001ar.htm#2001ar, last visited December 23, 2002.

[84] EPA. Fiscal Year 2001 Annual Report. Page III-18. http://www.epa.gov/ocfopage/finstatement , last visited December 23, 2002.

[85] EPA FY 2002 Integrity Decision Meeting, Chart 1, page 2.

OIG reported the backlog as a management challenge starting in 1998 and most recently reported it as a Tier II Management Challenge.[86] Last year, EPA's goal was to reduce the backlog of NPDES permits for major facilities to ten percent by the end of calendar year 2001 and to ten percent for major and minor permits by the end of calendar year 2004.[87] As of March 2003, EPA reports indicate that the backlog for majors was 17% and for minors was 19.2%.[88](viewed on May 13,2003) During FY 2002, EPA drafted a system for prioritizing and reissuing backlogged permits to focus on those with the most significant environmental impact, but the Agency no longer expects to meet its 2004 goal. The agency now says that it's on track for correction by FY '05.[89]

This issue is an Agency-level weakness under the Federal Managers' Financial Integrity Act. We will continue monitoring EPA's progress in addressing this important issue. The OIG is in the preliminary research phase of an evaluation directed toward assessing (1) the extent of the environmental impact of the NPDES permit backlog, (2) how well the NPDES backlog measures reflect environmental impacts of delayed permit reissuance or issuance and (3) how successful EPA and States have been at managing the backlog.

Management of Biosolids

Approximately six million tons of sewage sludge ("biosolids") are produced annually by sewage treatment plants in the United States[90]. With inadequate treatment these biosolids may contain a wide variety of chemicals and pathogens, the remains of the sewage treatment process[91]. The OIG believes that EPA does not (1) EPA does not know whether current regulations, when adhered to, are protective of public health[92]; (2) EPA does not have an overall understanding of the magnitude and quality of biosolids production and disposal practices[93]; (3) EPA does not know if the enforcement and compliance resources committed to managing biosolids are adequate to ensure that the regulations are adhered to[94].

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[86]Memorandum, "EPA's Key Management Challenges" from OIG to EPA Administrator, September 6, 2002, page 1.

[87]Memorandum, "EPA's Key Management Challenges" from OIG to EPA Administrator, September 6, 2002, page 13.

[88]http://www.epa.gov/npdes/pubs/grade.pdf and http://www.epa.gov/npdes/pubs/grade_minor.pdf

[89]Memorandum, "EPA's Key Management Challenges" from OIG to EPA Administrator, September 6, 2002, page 13.

[90] Sewage Sludge Standards Need New Scientific Basis, NAS, http://www4.nas.edu/news.nsf/isbn/0309084865?OpenDocument

[91] Sewage Sludge Standards Need New Scientific Basis, NAS, http://www4.nas.edu/news.nsf/isbn/0309084865?OpenDocument

[92]Biosolids Management and Enforcement, 2000-P-000010, March 20, 2000. pg ii.

[93]Biosolids Management and Enforcement, 2000-P-000010, March 20, 2000, pg. 30.

[94]Biosolids Management and Enforcement, 2000-P-000010, March 20, 2000, pg. 18.

EPA has not conducted the basic research needed to determine the risk associated with certain biosolids disposal practices[95]. The Agency has taken the position that biosolids management is a low-risk activity[96]. As a result, EPA did not meet its commitment to comprehensively assess the extent of the risk[97]. EPA issued Part 503 of Title 40 of the Code of Federal Regulations ("The Sludge Rule") to govern the use and disposal of biosolids in February 1993 under court order. When it issued the rule, EPA committed to conducting a comprehensive research program to assess the risks associated with land application of biosolids, yet it has not yet done so[98]. In June 2002 the National Academy of Sciences (NAS) recommended additional research[99], and in April 2003 announced its plans for how it will respond to them. It has committed to producing a research work plan by the beginning of 2004[100].

EPA uses the Permit Compliance System (PCS) to manage water quality activities of point source dischargers such as sewage treatment plants, but PCS is acknowledged by the Office of Water (OW) as inadequate for managing biosolids[101]. EPA is unable to answer basic questions such as how much biosolids are land-applied[102]. As a result of this data gap, OW developed an independent system, the Biosolids Data Management System (BDMS), to track compliance with biosolids regulations[103]. EPA is revising PCS, but has not yet decided whether to incorporate BDMS into this new version. According to OW, "the ultimate usefulness of the BDMS on a national basis is likely dependent upon its adoption into PCS."[104]

EPA has diverted compliance and enforcement resources away from this program. The safety of biosolids land application depends on the adherence to highly technical treatment standards by land applicators across the country. In a 2000 report we found inadequacies in EPA's

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[95] Sewage Sludge Standards Need New Scientific Basis, NAS, http://www4.nas.edu/news.nsf/isbn/0309084865?OpenDocument

[96] Land Application of Biosolids, 2002-S-000004, March 28, 2002., pg. i.

[97] Land Application of Biosolids, 2002-S-000004, March 28, 2002., pg. ii.

[98] Land Application of Biosolids, 2002-S-000004, March 28, 2002., pg. 18.

[99] Sewage Sludge Standards Need New Scientific Basis, NAS, http://www4.nas.edu/news.nsf/isbn/0309084865?OpenDocument

[100] Standards for the Use or Disposal of Sewage Sludge; Agency Response to the National Research Council Report on Biosolids Applied to Land and the Results of EPA's Review of Existing Sewage Sludge Regulations, Federal Register / Vol. 68, No. 68 / Wednesday, April 9, 2003 / Notices

[101] Biosolids Management and Enforcement, 2000-P-000010, March 20, 2000, pgs. 30 and 44.

[102] Biosolids Management and Enforcement, 2000-P-000010, March 20, 2000, pg. ii.

[103] Biosolids Management and Enforcement, 2000-P-000010, March 20, 2000, pg. 20.

[104] Memo from OW responding to OIG's nomination of biosolids as a major management challenge (email dated 8/29/02 from Brigid Rapp of OCFO to Kwai Chan and Dan Engelberg) pg. 2

management and enforcement of the biosolids program[105]. In a status report on the biosolids program published two years later, we reported a further 44% reduction in full-time equivalent positions (from 18 to 10)[106]. This is a particular concern because EPA runs the biosolids program in 45 States[107]. Adequate oversight of this program is critical for ensuring regulatory compliance. To date, EPA has not committed the resources needed to fulfill its oversight responsibilities.

Although EPA is directing renewed attention to this area several issues remain unsettled. The uncertainties and management gaps discussed above have contributed to a series of court cases across the nation contesting the land application of sewage sludge. We will continue to monitor EPA's progress dealing with these issues.

[i1]MACT = Maximum Achieveable Control Technology. In essence, Phase 1 requires EPA to identify the control technologies used by the best performing 12 percent of sources in a particular category, and then require that all other sources in the same category meet the same level of emissions reductions as the best performing 12 percent (*see endnote no. 2 below).*

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[105]Biosolids Management and Enforcement, 2000-P-000010, March 20, 2000, pg. ii.

[106] Land Application of Biosolids, 2002-S-000004, March 28, 2002., pg. i.

[107] Ibid