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

OFFICE OF
INSPECTOR GENERAL

April 21, 2004

MEMORANDUM

SUBJECT: EPA's Key Management Challenges

TO: Michael O. Leavitt
Administrator

The Office of Inspector General (OIG) has identified the items listed below as the 2004 key management challenges for the U.S. Environmental Protection Agency (EPA). While the agency has made progress in most areas, the list remains largely unchanged from last year. It should be noted that "EPA's Working Relationship with States" is no longer identified as a separate challenge, but it is discussed under "Linking Mission and Management." That challenge also includes a discussion of Government Performance and Review Act issues, as well as concerns about Environmental Justice. Finally, there is a new challenge entitled "Superfund Evaluation and Policy Identification." The discussion of this challenge includes concerns about working relationships with Indian tribes. As previously, the challenges are tiered to reflect our opinion on the severity of their impact on EPA's mission.

Tier 1

Linking Mission and Management
Agency Efforts in Support of Homeland Security
(formerly Protecting Critical Infrastructure from non-traditional attacks)
Superfund Evaluation and Policy Identification
Information Resources Management and Data Quality
EPA's Use of Assistance Agreements to Accomplish its Mission
Challenges in Addressing Air Toxics Program

Tier 2

Human Capital Management
EPA's Information Systems Security
Management of Bio-Solids
Backlog of NPDES Permits

If your staff have any questions, please have them contact Eileen McMahon, Assistant Inspector General for Congressional and Public Liaison at (202) 566-2391.

Nikki L. Tinsley

Attachment

Attachment

Tier I

Linking Mission and Management

The EPA's new Strategic Plan 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 Plan, however, still does not contain sufficient substantive strategies or resource and schedule commitments leading to the attainment of its stated goals.

In a series of reviews of various Agency activities, we have observed a systematic disconnect between program goals, performance objectives developed in response to the Government Performance and Results Act (GPRA), and measures of effectiveness. For example:

- The Office of Water has not outlined how resources, activities, and outputs will achieve the water security program's goals. The EPA's Strategic Plan for Homeland Security lacks fundamental components, such as measurable performance results and information and analysis, to ensure the greatest practicable reductions in risks to the critical water sector infrastructure.[1]

- The EPA did not have a coordinated strategy integrating children's environmental health efforts into the Agency as a whole, and no active communication process among the program offices and EPA's Office of Children's Health Protection (OCHP). OCHP has no formal mechanism to track performance results or assess the relationships between program costs, activities, and results. More specifically, data and information systems are not available to measure, analyze, and demonstrate overall performance specific to the National Children's Agenda on a continuing basis.[2]

- The EPA has not fully implemented the Executive Order (EO) on Environmental Justice because it has not identified minority and low-income communities, nor defined the term "disproportionately impacted." In the 10 years that the Agency has been actively involved in implementing the EO, it has not developed a clear vision, developed a comprehensive strategic plan, or established values, goals, expectations, and performance measurements.[3]

As noted in prior years, developing outcome based performance measures linked to Agency activities is a challenging undertaking. While work continues, in EPA's Fiscal Year (FY) 2004 Program Assessment Rating Tool (PART) Assessments, the Office of Management and Budget reported that the absence of valid outcome performance data has hindered EPA in

evaluating the impacts of its programs on the environment and public health.[4] Recent Office of Inspector General (OIG) reports reinforce the need for continued improvements. For example:

- The EPA needs current, accurate data on the extent of financial and environmental challenges posed by hard rock mining activities to assist management in determining appropriate strategies and actions to address existing and potential mining sites. Without an adequate implementation strategy, it will be difficult for EPA to achieve the environmental protection goals of its National Hard Rock Mining Framework.[5]

- The EPA needs to establish effective program strategies, goals, and specific performance measures and milestones to successfully promote the purchase of recycled goods. Moreover, EPA needs to establish a clear linkage between these Resource Conservation and Recovery Act requirements and the Agency's broad pollution prevention goals.[6]

- The EPA needs to collect sufficient workload information and develop appropriate outcome measures to gauge the overall sufficiency of funds for enforcement activities and to make well informed, investment decisions about the enforcement program.[7]

Continued reliance on output measures makes it difficult for EPA to provide regions and States the flexibility they need to: (1) direct resources to their highest priority activities, and (2) assess the impact of Agency work on human health and the environment.

As EPA works to develop more outcome-oriented performance measures, it must continue improvements to track the cost of achieving environmental results. In response to the need for reliable cost information, the Office of the Chief Financial Officer (OCFO) completed a managerial cost information assessment project to identify the cost information needs of budget and program managers, consider changes to the Agency's cost information systems, and assess trends in the use of cost information. This project resulted in numerous findings and recommendations, and acknowledged that managers need to know the full costs of programs, projects, and activities in order to effectively manage for results.[8]

The EPA's success in implementing cost accounting will rely, in part, on how well OCFO works with programs offices to: (1) define their mission-critical activities; (2) determine where suitable cost data resides and, if not available, how will it be gathered; (3) link information systems to optimize data usability and minimize data integrity concerns; and (4) design cost reports for monitoring program results. Moreover, OCFO will need to reconsider its decision to retain the "GPRA sub objective" as the official Agency cost accounting output, in lieu of a different output that would better reflect the costs of programs, projects, and activities.[9]

The OCFO has missed several milestones in its September 2002 plan to expand cost information at EPA, and the plan relies on a reporting tool that has not yet been implemented. Until implemented, the Agency's ability to expand or provide additional cost information will be significantly inhibited. A continued commitment and close collaboration with EPA's many programs is needed if OCFO is to help provide Agency managers the information needed to support resource decisions, manage costs, and gauge program results.

In the Spring of 2003, EPA issued its first draft *Report on the Environment*, which brings together national, regional, and program office efforts to describe the condition of critical environmental areas and human health concerns. The EPA acknowledges that 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[10].

While EPA has begun the process for linking costs to goals, it must follow through by continuing to work with its Federal, State, and Tribal 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 the Agency's decision-making process.

Agency Efforts in Support of Homeland Security

The attacks on the World Trade Center and the Pentagon, the anthrax attack at the U.S. Senate office buildings, and the recent ricin incident all demonstrate that the United States is not immune to terrorist aggression. Since the events of September 11, 2001, there is a growing appreciation and demand to better prepare for, prevent, and respond to potential attacks against the United States.

While the Department of Homeland Security (DHS) has the lead for the unified national effort, many other Federal, state, and local agencies, including EPA, play a vital role in implementing homeland security efforts. In carrying out its mission - *to protect human health and the environment* - EPA has developed chemical, biological, and radiological technical and scientific expertise that enhances the ability of DHS to address potential threats. The EPA also possesses emergency response capabilities that complement the efforts of other Federal agencies. The EPA's role in responding to recent terrorist incidents has further defined and demonstrated the nation's expectations of EPA's emergency response capabilities.

The EPA's *Strategic Plan for Homeland Security* is organized into four mission critical areas:

1. Critical Infrastructure Protection
2. Preparedness, Response, and Recovery
3. Communication and Information
4. Protection of EPA Personnel and Infrastructure

The Public Health Security and Bioterrorism Preparedness and Response Act, signed in June 2002, (Public Law 107-188), specifically tasked EPA with funding and overseeing water system vulnerability assessments and resulting emergency response plans. The EPA has received all of the vulnerability assessments from large utilities and continues to receive the thousands of vulnerability assessments from medium and small water utilities. The EPA is also

providing training and assistance in developing emergency response plans. Over the past year, OIG analyzed several of EPA's actions to address critical infrastructure protection and better prepare, respond, and recover from potential incidents. While EPA's efforts to enhance homeland security and quickly respond to incidents are commendable, our reviews found that EPA needs to:

- Develop better processes for identifying, obtaining, maintaining, and tracking response equipment necessary for Nationally Significant Incidents;

- Take action to assess the adequacy and quality of the water vulnerability assessments submitted by water utilities;

- Formulate a strategy to measure security enhancements in the nation's water infrastructure; and

- Better define its homeland security role in protecting air from terrorist threats.

Over the past year, EPA has undertaken a number of efforts to work with Federal, State and local counterparts to enhance critical infrastructure protection. The EPA'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[11].

Superfund Evaluation and Policy Identification

In the last several years a number of reports and reviews of the Superfund program have identified troubling obstacles to the Agency's ability to effectively meet the nation's current and future needs for hazardous waste cleanup[12]. These reports show that**:** (1) annual Superfund program needs are not estimated to fall below FY 1999 needs ($1.54 billion) until FY 2006, (2) over the past 13 years, due to falling Trust Fund balances, the percent of Superfund appropriations coming from general revenues, rather than the Trust Fund, has gone from zero to 56 percent, (3) in some cases the Agency is unaware of what its most pressing future needs might be, or the ability of responsible parties to realistically cover cleanup costs, (4) the Superfund program cannot meet all of its current reported needs for cleanup and has stopped or slowed down cleanup actions at several sites across the country, and (5) other cleanup programs, such as some State programs, are not financially positioned to take on greater Superfund responsibilities.

Information from recent reports points to significant challenges EPA faces in managing the Superfund program now and in the future. However, despite having its own processes for evaluating and reforming the program, EPA has failed to identify, or communicate, the current fiscal and other program management challenges that are causing great pressure and attention on the program.[13] For example, in 1989, 1991, and 2003, respectively, the Agency completed a "90-day study, a "30-day task force", and is now completing a "120-day study". Collectively,

these have made, or promise to make, recommendations to provide for efficient and effective cleanups, get responsible parties to pay for cleanups, streamline the Superfund process, accelerate private party cleanups, and identify ways to direct more funds to long term Superfund cleanup actions, among others. Moreover, in 1993 EPA began a series of 49 reforms to make the Superfund program "faster, fairer, and more efficient". These reforms focused on improving the effectiveness of cleanups, reducing litigation and transaction costs, making cleanup decisions more cost-effective and encouraging the redevelopment of cleaned up sites, among others. Last, in response to Resources for the Future's 2001 report on the future costs of Superfund, EPA established a Superfund Subcommittee to the National Advisory Council for Environmental Policy and Technology. The committee has completed its review on the "role of the National Priorities List, the role of Superfund at so called mega sites, and measuring program performance". However, the committee's final March 2004 report indicates that consensus recommendations could not be reached on every topic.

Recognizing that tribes are important partners in implementing the Agency's environmental programs, the Agency has undertaken three major initiatives since 1998. These include: (1) a 1998 plan to enhance the role of States and tribes in the Superfund program, (2) a 1999 Office of Solid Waste and Emergency Response action plan to respond to impediments in the implementation of tribal waste programs, and (3) the creation of the Tribal Association on Solid Waste and Emergency Response (TASWER) to provide for tribal involvement in policies, training, education and a tribal research center. These initiatives have produced some positive results and lessons that have been incorporated into the Agency's current strategy for managing the role of the tribes in the Superfund program.

However, a recent OIG evaluation found that key actions remain incomplete, the Agency's current strategy is stalled, and it cannot be effectively implemented without change. The Agency's tribal strategy has faltered because it does not have a detailed implementation plan with milestones, priorities, resource needs, and corresponding measures to track progress and effects of the strategy. In addition, the strategy cannot be effectively implemented without critical information, including an inventory of hazardous waste sites on Indian lands. We reported in January 2004 that the Agency worked for several years to produce this inventory but has been unsuccessful due to TASWER mismanagement and lack of Agency oversight.[14] Additional factors impacting the lack of progress include little emphasis from senior Agency leadership and the failure to include Regions in developing the strategy, which has resulted in divergent regional programs that operate under different policies, procedures, and priorities. Some regions have incorporated tools to enhance their relationships with tribes (consultation procedures, memorandum of agreements, special training, and establishing tribal consortia), but the Agency has no mechanism for sharing information among regions to provide learning or improvement opportunities. An on-going OIG case study evaluation of EPA-tribal relationships shows that establishing government-to-government relationships, maintaining frequent communication and information sharing, having responsible, knowledgeable and consistent EPA project managers, among others, were characteristics of strong EPA-tribal relationships.

If EPA is to continue to make progress enhancing the role of tribes in the Superfund program it needs to (1) obtain critical information on where hazardous waste sites are located in Indian country, (2) update the Agency's strategy to reflect inventory information, (3) obtain Regional input and develop implementation plans for the strategy that include milestones, priorities, and resource needs, (4) provide clear guidance on tribal consultation and establish site-specific written agreements for significant tribal relationships, and (5) establish a forum for exchanging best practices and lessons learned in establishing and maintaining effective relationships with tribes. A strong working relationship between EPA and the States and Tribes is necessary if environmental goals are to be achieved. This issue warrants continued attention by EPA management.

Clearly, from the time Superfund was created in 1980 to the present, the Agency can be credited with reducing risks at hazardous waste sites across the nation, identifying and implementing needed reforms, instituting program infrastructure and making progress in cleaning up the nation's most contaminated sites. However, although the Agency has a long history of internal-program review, recent challenges identified through external reviews of the Superfund program point out that there are weaknesses in EPA's ability to identify, evaluate or communicate significant issues related to the program's current and future needs. If the Agency is to maintain the public's trust and confidence in its ability to effectively manage the Superfund program and protect human health and the environment at the nation's most contaminated waste sites, it needs to demonstrate the ability to proactively identify and address the program's most serious challenges. This is particularly important when the Agency has processes in place to accomplish this. In addition, effective and credible program planning, budgeting and resource allocation are accomplished when the Agency is informed of what the program's current and future challenges and needs are.

The EPA should continue its important internal evaluation and reform activities that have characterized the Superfund program since 1989. However, changes or modifications in its evaluation and policy identification process are needed to respond to new challenges. In the future, the Agency will need to identify and provide solutions for major program challenges and policy decisions, including, challenges associated with (1) lack of Trust Fund appropriations and requesting funds from general appropriations, (2) the inability to fund all sites that require funding, including increasing demands for program efficiencies and establishing site prioritization processes, (3) determining potential future financial and environmental liability from sites that have not yet formally entered the Superfund program, and (4) lack of viable responsible parties, inadequate financial assurance for site cleanup, and the inability to consistently rely on other programs to support Superfund needs.

Information Resources Management (IRM) and Data Quality

The EPA acknowledges IRM data management policies as an Agency-level weakness under the Federal Managers Financial Integrity Act (FMFIA) and has specifically targeted various components for improvement.[15] The EPA faces a number of challenges with the data it uses to make decisions and monitor progress against environmental goals. These 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 to 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. The EPA and most States often apply different data definitions, and sometimes collect and input different data, resulting in inconsistent, incomplete, or obsolete consolidated national data.[16] However, developing a robust data management program remains a complex effort, and several areas require continued attention to ensure effective implementation.[17]

In 2003, EPA updated its Enterprise Architecture Plan to integrate the target architecture with the Federal Enterprise Architecture reference models and the Agency's new Strategic Plan.[18] One of EPA's goals is to integrate its environmental, research, and administrative 'business domains,'[19] and the revised plan includes a Sequencing Plan Migration Framework to help guide information technology (IT) investment decisions by setting the path and priority order for moving systems from the baseline towards the target architecture.[20] The EPA is currently developing business criteria to migrate systems within the Agency's policy framework.[21] Moreover, during FY 2004, EPA plans to begin actual construction of the central services necessary to support the target architecture. The EPA admits that this is the largest IT program in its history, and has created a new organization to manage and coordinate the many parts that are essential to realizing the targeted central services concept (e.g., an enterprise portal, business warehouses, geo-spatial services, identity management, and shared analytical tools).[22]

Addressing common development practices and implementing data and technology standards also are essential components for establishing EPA's suite of central services. While EPA has developed several core registry systems and metadata registries**,** it has yet to implement a 1998, agreed-upon, OIG recommendation to formally revise its policies and procedures supporting an Agency standards program.[23] Also, while EPA has developed and formally approved twelve data standards, and continues to partner with the Environmental Data Standards Council to develop additional standards for environmental information collection and exchange,[24] the true challenge lies in the implementation of the 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 FY 2006, 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[25]. 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.[26] Despite acknowledged problems regarding the quality of the drinking water data, EPA used the flawed and incomplete data to draw and report conclusions about its drinking water goal. As such, year after year, EPA incorrectly reported meeting its drinking water goal under GPRA.[27] Another OIG evaluation found that EPA's performance measurement, reporting, and program tracking systems did not effectively monitor and report refinery program progress within the Agency, to the public, and to Congress. We found that EPA's Integrated Compliance Information System captured and reported projected emission reductions rather than actual emission reductions related to the program, meaning that GPRA and other reports did not demonstrate the actual impact of the refinery program.[28] Likewise, audits of other major Agency systems have disclosed significant error rates in crucial data fields used to track environmental progress on GPRA goals and measures.[29] All EPA organizations that collect, evaluate or use environmental data must develop and implement Quality Management Plans and the Office of Environmental Information recently completed a major effort to establish and revise Quality Management Plans throughout the Agency.[30]

The Agency also responded to data quality concerns by instituting an on-line Integrated Error Correction Process in 2000, which enables partners and stakeholders to alert EPA about potential data errors in eight data systems[31]. In addition, in FY 2002, the Agency issued a Draft Data and Information Quality Strategic Plan to prioritize actions for improving the quality of currently collected data[32]. The EPA's first draft *Report on the Environment* Spring 2003 acknowledged that data gaps in some program areas limit EPA's ability to create a reliable, national picture or assess progress towards those environmental goals.[33] Drawing from these documents, as well as input from the public, the Agency plans to develop (1) a planning process for the identification of key data gaps and (2) an Indicators Long-Term Strategic Plan for filling key information gaps.[34]

Data quality concerns extend to questionable analyses by laboratories. Such concerns raise skepticism regarding the effectiveness of environmental decisions, and lead to additional costs and unnecessary delays when EPA has to identify and assess the impact of 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[35]. Nonetheless, the number of ongoing lab fraud investigations increased by more than 150% between FY 2001 and 2003 due to complaints received. The method of fraud employed by all but two of the involved laboratories dealt with some form of altered or fraudulent test results. This type of improper laboratory practice is especially alarming considering that Agency, State or other Federal government decisions may have been made based on data of unknown scientific quality.

Our reviews and investigations continue to show 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. Although our investigations of data quality and data integrity include a cross section of EPA programs, the majority of investigations involve the Office of Water (drinking water and National Pollutant Discharge Elimination System) and the Office of Solid Waste & Emergency Response (Superfund). Several current lab fraud

investigations involve fraudulent manipulation of data used to evaluate the compliance of public water supplies with Federal drinking water standards. Another case involves fraudulent Superfund data supplied to the Agency by a laboratory for almost a ten-year period. These cases indicate that despite past efforts to ensure improved data quality, manipulated data continues to be generated and supplied to EPA.

To address laboratory fraud, EPA recently issued a new policy that will require laboratories to document adherence to a Quality System though periodic independent assessments, participation in inter-laboratory comparisons, and by seeking accreditation, where such programs are available, for components of laboratory operations. As a first step in implementing the new directive, by the end of FY 2004, each laboratory must submit its preferred implementation approach and timetable.[36]

Moreover, a recent EPA Task Force Study noted that the quality and comparability of data used for regional decisions is questionable when field sampling activities and laboratory methods do not incorporate the latest scientific advances.[37] Regions depend on EPA's Office of Research and Development (ORD) and Program Offices to provide and incorporate state-of-the-art science into program guidance. As such, the Study's report makes numerous recommendations to improve data reliability, access, and compatibility issues, including that ORD should collaborate with program and regional offices to (1) sponsor an exposition highlighting recent scientific advances, including data collection and analytical methodology, and (2) identify topics for future seminars and workshops.

The EPA's ability to enforce environmental laws, evaluate the impact of its programs in terms of environmental improvement, and accurately inform the public about the status of the environment may continue to be limited by gaps and inconsistencies in the quality of its data. The 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.

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 FY 2003 budget, approximately $4.4 billion, was awarded to organizations through assistance agreements. It is imperative that the Agency uses good management practices in awarding and overseeing these agreements to ensure they cost effectively contribute to attaining environmental goals.

The Office of Inspector General's grants management work has focused on crosscutting national issues and has included grants made to State, local and tribal governments, and not-for-profit organizations. We have reviewed assistance agreement administration in EPA's major program areas, and found that systemic weaknesses continue in how EPA manages assistance agreements. Recent OIG audits found:

- While EPA had developed corrective actions to improve oversight controls over assistance agreements, oversight continued to be a weakness. Actions such as (1) development of post-award monitoring policies, (2) establishment of training requirements for project officers, and (3) performance of management effectiveness reviews, have not resulted in eliminating weaknesses in grants oversight.[38]

- Project officers did not perform all necessary steps when conducting pre-award reviews of assistance agreement applications. For example, in 19 percent of the assistance agreements reviewed, the project officer did not determine the relevance of the proposed workplans to EPA program objectives. Project officers also did not document cost reviews to determine the reasonableness of the proposed costs in 79 percent of the assistance agreements where it was required.[39]

The EPA policies and guidance identify the reviews EPA staff is 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.

As a result of OIG and General Accounting Office (GAO) audits, as well as its own reviews, EPA has revised several of its policies on management of assistance agreements as well as the training it provides project officers. These changes have resulted in increased requirements for competing grants, monitoring of grant recipients, and review of program and regional office management of grants.

In one OIG review involving a not-for-profit grantee, we questioned $4.7 million because the work was performed by an ineligible lobbying organization.[40] The EPA awarded the cooperative agreements to an associated organization that did not have any employees, space, or overhead expenses. In addition, the ineligible organization's financial management practices did not comply with Federal regulations. In another review, we questioned $1.1 million claimed by the recipient because it did not separately identify and accumulate all the costs associated with its membership activities and lobbying efforts.[41] The recipient also did not competitively obtain contract services. In one instance the recipient received seven proposals, but awarded the contract to the current vendor, even though the vendor had not submitted a proposal.

The management of assistance agreements is an Agency-level weakness under the Federal Managers' Financial Integrity Act. 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 in continually assessing operations to determine if additional improvements in the management of assistance agreements are warranted.

Progress Made, But Challenges Remain in Addressing Air Toxics Program Goals

Toxic air pollution is one of the more significant health and environmental problems in the U.S., causing cancer, neurological, immunological, and other serious health problems.[42] The EPA's goal is to reduce air toxics emissions and the associated risks to public health and the environment from air toxics substantially by 2010.[43] The Agency has increased its efforts to address air toxics goals in recent years as evidenced by a nearly 41 percent increase in funding from $90.7 million in fiscal year 1999 to $127.7 million for fiscal year 2004.[44]

Further, in February 2004 EPA achieved its Phase 1 goal of issuing technology-based standards, also known as Maximum Achievable Control Technology (MACT) standards, for 174 categories of major stationary sources.[45] Since 1990 EPA has been implementing a two-phased program to reduce emissions of 188 air toxics from these 174 categories. Phase 1 is a technology-based approach to reducing air toxics, while Phase 2 assesses the level of health risk remaining after the Phase 1 controls are in place.[4] No Phase 2 standards have been issued to date.[46]

Implementation of the Phase 2 standards may present greater challenges than Phase 1 because Phase 2 requires EPA to determine the air toxics risks to human health after the MACT standards have been implemented and, if MACT standards are not sufficiently protective of human health, EPA must propose additional standards.[47] However, significant data gaps and uncertainties exist with respect to estimating human exposure to air toxics and the risks associated with differing levels of air toxic exposures for the 188 air toxics.[48] Also, the Agency has focused largely on 33 of the worst air toxics prevalent in urban areas.[49] Although progress is being made, significant data gaps in understanding these 33 highest priority air toxics still exist,[50] and EPA's health and ecological effects information, exposure data, emissions data, source characterization data, and ambient data on the remaining 155 air toxics is even more limited.[51]

In addition to major stationary sources, mobile sources and areas sources are significant sources of air toxics emissions.[52] Mobile sources are particularly significant in urban areas. The EPA has increased its funding for mobile source air toxics activities by 35 percent since 1999, and has major rulemaking efforts underway to address 21 air toxics from mobile sources both on and off roads.[53] Also, mobile source rules designed to address diesel emissions and to reduce levels of particulate matter and ozone are expected to reduce air toxic emissions significantly; however, mobile source emissions of air toxics remain a significant health concern, particularly their potential to create local hotspots of excess air toxic exposure.[54] Area sources (smaller stationary sources that do not quality as major sources) produce emissions that tend to cluster in highly populated areas.[55] Area sources are currently estimated to represent over 30 percent of total air toxics emissions.[56] Although 70 area source category standards were required to be completed by 2001, EPA has issued standards for only 14 source categories. The EPA is negotiating promulgation dates for the remaining 56 source categories as part of settlement discussions.[57]

Measuring air toxics progress presents significant challenges because of the uncertainties associated with characterizing air toxics emissions, ambient concentrations, human exposure, and health effects. There is limited 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.[58] Work on integrating research findings on the toxicity of air toxics mixtures and cumulative risk is not scheduled for completion until fiscal year 2009.[59] Unlike the criteria pollutant program, a comprehensive network of ambient (outdoor) air toxics monitors does not yet exist.[60] Consequently, EPA relies on emissions data for gauging its progress in reducing health risks from airborne toxics and is likely to do so for years to come.[61] However, there are concerns with the accuracy of this data, and EPA faces considerable challenges in improving this measure.[62] The Agency will need help from State and local agencies to improve air toxics emissions data,[63] but these agencies have not been required to report air toxics emissions data nor have they been required to verify it.[64] Improvements in methods for calculating air toxics emissions are needed if the Agency is to accurately gauge the extent to which emission reductions have reduced the public's health risk as called for under GPRA.[65] We will continue to monitor the progress EPA makes in addressing these important issues.[66]

Tier II

Human Capital Management

The EPA remains committed to ensuring its workforce is high performing, results-oriented, and aligned with its strategic goals and objectives. In accordance with the President's Management Agenda (PMA) initiative on Human Capital Management[67], EPA is endeavoring to link human capital strategies to its mission, determine necessary core competencies, and use strategic workforce planning to attract, develop, and retain a high-performing workforce. The EPA's December 2003 human capital strategic plan[68] is designed to ensure a systematic process for identifying the human capital requirements to meet strategic and organizational goals. Moreover, EPA's latest Strategic Plan[69] emphasizes the importance of human capital planning within each of the Agency's five performance goals and includes a cross-goal strategy that links the Strategic Plan to the PMA and to the Agency's new human capital strategy.

While EPA continues to make progress in its human capital efforts and has indicated a strong commitment to reaching its PMA goals,[70] management acknowledges several requisite action areas. Specifically, EPA recognizes the need to: (1) hold senior leaders accountable for successful implementation of human capital strategies, (2) develop and carry out good succession plans, (3) effectively communicate planned strategies across the Agency, and (4) establish a comprehensive accountability plan and consistently implement it throughout the Agency.

The EPA will remain challenged in the near-term, and potentially long-term, to implement human capital activities on an office-by-office basis to achieve Agency-wide success. While EPA has not yet comprehensively assessed its workforce, it has developed and begun

implementing its Strategic Workforce Planning System that should, among other things, help management identify the skills and the number and type of positions required, inventory the skills of the current workforce, examine attrition rates, forecast the number of new hires, identify gaps in an office's human capital resources and workload demands, and strategically plan to address any gaps. This work will be key to EPA's success because it will enable offices to plan for and carry out necessary human capital initiatives. The following example illustrates why this work is so important.

A recent OIG report[71] highlights that an inaccurate assessment of human capital prevented the Agency from effectively managing the national petroleum refinery compliance program. The ultimate success of the refinery compliance program depends on the Agency's effective management of consent decrees. However, we found that some actions designed to reduce company emissions using negotiated and enforceable consent decrees have been delayed due to implementation problems stemming from insufficient human capital workforce planning. As Agency officials did not establish accurate, detailed resource plans to meet current workloads, serious backlogs in the review of consent decrees developed and persisted in part because the Agency did not reallocate its human capital resources as demands changed.

In addition, an Agency-wide task force study[72] reported human resource management as a challenge for optimizing the use of science in regional decisions. The report emphasized that human resource management needs to be focused on hiring, developing, retaining, and supporting competent scientists/engineers. Additionally, workforce planning is important to strategically obtain needed scientific expertise and provide the appropriate workforce skill mix reflecting important scientific and technological advances. In particular, the report identifies four human resource management obstacles and makes numerous recommendations, including that "Regions should work closely with Office of Administration and Resource Management (OARM) so that the Regions' Human Capital Planning efforts result in workforce development strategies reflecting this need at a national level . . .."

Lastly, the OIG recently conducted an Agency-wide survey designed to assess EPA's level of readiness to implement strategic human capital management activities. Survey results[73] support that senior leaders are committed to strategic human capital management activities, and most senior leaders cite they are held accountable for implementing such activities. However, responses indicate that headquarters and regional offices are at different stages of implementing human capital activities (e.g., establishing office-specific human capital strategic plans, communication initiatives, and performance measures; conducting workforce planning and analysis; and implementing human capital accountability systems) because (1) senior leaders have varying opinions on the importance of strategic human capital initiatives, and (2) Agency core management processes do not place adequate attention on this area. We also found that the Agency's human capital success is not linked to each office's strategic human capital management activities. Our final report will recommend how effective leadership, communication, and accountability factors can assist in driving EPA's human capital change initiatives.

In summary, while progress has been made, human capital management 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 Information Systems Security

The EPA's information systems collect, process, store, and disseminate vast amounts of information used to help make sound regulatory and program decisions and inform the public about the status of the environment. To protect the integrity of this information, the Agency must prevent intrusion and abuse of its automated systems.

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 the information.[74] As indicated in its FY 2003 annual report to the Office of Management and Budget (OMB), 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.[75] In addition, OEI furthered its security response capabilities by drafting an incident response handbook to help Agency Information Security Officers understand and better respond to potential incidents.[76] These positive actions led EPA to downgrade this management challenge to an Agency-wide weakness under the Federal Managers Financial Integrity Act, and to subsequently refocus corrective actions on assuring the implementation of its information security program.[77]

The dynamic nature of security, however, requires continued emphasis and vigilance, and we believe the following additional actions are needed to protect EPA's information and systems.

- Establish a systematic monitoring and evaluation program that allows management to place reliance on collected data and make informed investment decisions and judgments regarding the effectiveness of EPA's computer security program. In particular, 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.[78] A recent OIG report disclosed 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.[79] Prior audit work 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.[80] Without regular, effective oversight processes, EPA will continue to place unsubstantiated trust in the many components involved in implementing, practicing, and documenting security requirements.[81]

- Implement security and configuration improvements to further ensure that EPA's information resources are adequately secured. In particular, OEI needs to: (1) establish a standard configuration requirement for adequately securing workstations used to remotely administer the Agency's network firewalls, (2) modify the software change and patch management processes to ensure new "patches" do not adversely affect previously applied fixes, and (3) modify the network vulnerability assessment methodology to include scanning of all firewall components.[82]

- Improve security practices within EPA's network to prevent the misuse of government resources and detect potential attacks by network users. Computer security statistics support that authorized users of the network cause a high percentage of misuse/abuse incidents. Such incidents include excessive or inappropriate web surfing, illegal downloading of software, and operating a private business using government resources. Recent OIG investigations include more serious allegations of network misuse, and have resulted in contract employee terminations, criminal convictions, and employee disciplinary actions.[83]

- Develop and ensure implementation of a training program to provide information security training to EPA employees with significant information security responsibilities.[84] This includes OEI's plans to implement a system to aid in the tracking of security training for employees with significant security responsibilities.[85]

- 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.[86]

- Establish a policy and management framework to support development of up-to-date contingency plans for Agency information systems and test critical components under circumstances relative to actual deployment.[87]

- 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, EPA has contract employees with such access who have not received any clearance. Examples include a contract employee with access to Confidential Business Information who was arrested on a felony warrant. Until the Agency addresses this issue, it will be vulnerable to information leaks, theft, tampering, and destruction.

- Modify OEI's Plan of Actions and Milestones database to prioritize targeted completion dates for recognized security weaknesses.

Based on the threat of cyber attacks, Federal agencies continue to devote significant attention to security of information systems. While EPA has made certain improvements, this area remains a top management challenge.

Management of Biosolids

Approximately six million tons of sewage sludge ("biosolids") is produced annually by sewage treatment plants in the United States.[88] With inadequate treatment these biosolids may contain a wide variety of chemicals and pathogens, the remains of the sewage treatment process[89]. Although a number of biosolids activities are underway or planned (as outlined below), at this time the OIG believes that (1) EPA does not know whether current regulations, when adhered to, are protective of public health[90], (2) EPA does not have an overall understanding of the magnitude and quality of biosolids production and disposal practices[91], (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.[92]

The Agency has taken the position that biosolids management is a low-risk activity.[93] As a result, EPA did not meet its commitment to comprehensively assess the extent of the risk.[94] 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 has only begun to do so now.

In June 2002 the National Academy of Sciences (NAS) recommended additional research.[95] The EPA published a final notice in the December 31, 2003 Federal Register providing its final response to the NAS report and detailing the final action plan for biosolids activities for the near and long-term time frames.[96] The final action plan consists of a list of fourteen projects scheduled to begin or be completed in the next two to three years, and depending on several factors, a possibility of other projects that would begin after 2005.[97] The near-term projects address the major categories of: a regulatory review of Part 503; development of analytical methods, particularly relating to microbial pollutants; development and assessment of scientific data; compliance assistance and enforcement activities, including updated training and guidance, and a pilot expedited settlement offer program[98]; and increased communication of information to stakeholders.[99]

The EPA is coordinating the biosolids project work across EPA with several Offices having the lead responsibility for different activities in the action plan. While target dates for the projects are scheduled through FY 2007, as information becomes available, the Agency plans to incorporate it in their ongoing regulatory review process every 2-3 years.[100] The EPA has also initiated contact with the Centers for Disease Control and Prevention (CDC)[101], which has committed to participating with EPA in an "Incident Tracking Workshop."

The 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.[102] The EPA has been unable to answer basic questions such as how much biosolids are land-applied.[103] As a result of this data gap, OW developed an independent system, the Biosolids Data Management System (BDMS), to track compliance with biosolids regulations.[104] According to OW, "the ultimate usefulness of the BDMS on a national basis is likely dependent upon its adoption into PCS."[105] At this time, EPA is still in the process of revising and updating PCS.[106]

The 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 management and enforcement of the biosolids program.[107] 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).[108] This is a particular concern because EPA runs the biosolids program in 45 States[109]. 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 and completing the action plan.

Backlog of National Pollutant Discharge Elimination System (NPDES) Permits

The Clean Water Act specifies that NPDES permits expire in five years.[110] Permittees wishing to continue discharging beyond that term must apply prior to the expiration date of their permit.[111] If the permitting authority receives a renewal application but does not reissue the permit prior to expiration, the permit may be "administratively continued."[112] Although all existing permit conditions remain in effect, 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 water.[113]

The Agency has recognized the backlog of NPDES permits as a nationwide problem and developed a corrective action plan.[114] 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.[115] In FY 2003, EPA developed and piloted the Permitting for Environmental Results initiative to address the permit backlog and focus resources on attaining the most significant environmental results." Through this initiative, EPA believes that states and EPA will be able to have an environmental focus in permit issuance as well as develop efficiencies to meet permitting goals despite resource constraints.[116]

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.[117] The OIG reported the backlog as a management challenge starting in 1998 and still considers it as a Tier II Management Challenge. The EPA's goal has been to reduce the backlog of NPDES permits to 10 percent for major and minor permits by the end of calendar year 2004.[118] Last year, the agency said that it's on track for correction by fiscal year 2005. In March 2003, EPA reported that the backlog for majors was 17% and for minors was 19.2%, and as of December 2003 the backlog reports indicate further reductions; the backlog for major permits was reported to be 15.8%, and for minors was 18.6%.[119] Although the Agency no longer expects to meet its 2004 goal, it now says that it's on track for correction by FY 2005.[120]

In 2003, EPA began developing the "Permitting for Environmental Results Strategy" to "...address concern for the workload in permit issuance and the health of state NPDES programs."[121] Beginning in FY 2004, EPA will make comprehensive assessments of NPDES program integrity and track the implementation of follow-up actions." According to EPA, the Strategy "focuses limited resources on the most critical environmental problems by targeting three key areas: developing and strengthening systems to ensure the integrity of the program; focusing headquarters, Regions and States on environmental results in the permitting program; and fostering efficiency in permitting operations."[122]

We will continue monitoring EPA's progress in addressing this important issue. The OIG is completing the fieldwork 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.

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104. Ibid.

105. 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.

106. *EPA Should Take Further Steps to Address Funding Shortfalls and Time Slippages in Permit Compliance System Modernization Effort*, 2003-M-00014, May 2003, pgs 2-3, 6.

107. *Biosolids Management and Enforcement*, 2000-P-000010, March 20, 2000, pg. ii.

108. *Land Application of Biosolids*, 2002-S-000004, March 28, 2002, pg. i.

109. Ibid. EPA website last updated on April 14, 2003 continues to show 5 delegated states. See, "State Program Status." http://cfpub1.epa.gov/npdes/statestats.cfm?program_id=12.

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

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

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

113. 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).

114. 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.

115. EPA Fiscal Year 2001 Annual Report, Page III-18. Document available in pdf format through http://www.epa.gov/ocfopage/finstatement/2001ar/2001ar.htm#2001ar, last visited December 23, 2002.

116. EPA FY2003 Annual Report. p. 49.

117. EPA FY 2002 Integrity Decision Meeting, Chart 1, page 2.

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

119.http://www.epa.gov/npdes/pubs/grade.pdf and http://www.epa.gov/npdes/pubs/grade_minor.pdf

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

121. FY05 Annual Performance Plan and Congressional Justification, page II-57.

122. FY05 Annual Performance Plan and Congressional Justification, page II-57.