



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

OFFICE OF
INSPECTOR GENERAL

April 19, 2007

MEMORANDUM

SUBJECT: EPA's Key Management Challenges

TO: Stephen L. Johnson
Administrator

We are pleased to provide you with the updated list of items the Office of Inspector General (OIG) considers to be the key management challenges confronting the U.S. Environmental Protection Agency (EPA or Agency). Our decision to include the areas listed is based primarily on audit or investigative work we performed. Thus it is possible that important challenges exist in areas that we have not yet reviewed or that other significant findings could be the result of additional work. We would welcome the opportunity to discuss your reaction to the list and any comments you may have.

We removed *EPA's Use of Assistance Agreements to Accomplish Its Mission* as a challenge this year. We state our reasons below. The list includes one new challenge entitled *Privacy Program*. You will note that the challenge previously titled *Human Capital Management* has been refined to address *Workforce Planning* and that the title of the challenge addressing *Voluntary Programs* has been shortened.

Our key management challenges below are not presented in priority order.

- Data Gaps
- Data Standards and Data Quality
- Information Technology Systems Development and Implementation
- Managing for Results
- Workforce Planning
- Efforts in Support of Homeland Security
- Efficiently Managing Water and Wastewater Resources and Infrastructure
- Emissions Factors for Sources of Air Pollution
- Privacy Program
- Voluntary Programs

EPA's Use of Assistance Agreements to Accomplish Its Mission was removed as a challenge because the Agency has taken substantial actions to improve its management of assistance agreements through updated policies, increased training, and improved accountability.

The Agency has been responsive to concerns the OIG, Government Accountability Office (GAO), and Congressional staff have expressed related to the management of grants and has plans to make corrections. EPA plans to continue to update key policies related to oversight of assistance agreements during 2007. The Agency also has plans to evaluate the implementation of its new policies during 2007 and 2008. We will continue to monitor the Agency's actions to manage assistance agreements to ensure that the actions taken will effectively improve grants management.

Data Gaps

If EPA is to manage for results, it needs to decide what environmental and other indicators will be measured so that organizations responsible for delivering environmental programs identify, collect, and measure what is important. Ensuring that the right type of data is available for analysis is essential for effective environmental decision making. OIG audits and evaluations pointed out that data to measure program success are not always present.

While EPA has developed a comprehensive work plan to measure the performance of the National Environmental Exchange Network (Network), data necessary to measure progress in meeting key Network objectives have not been collected. Such performance measures would provide the baseline data necessary to measure the Network's performance over time. Without the key performance data, management is hindered in its efforts to ensure funds spent on electronic data collection initiatives provide the quality and quantity of environmental data necessary to improve program efficiency and effectiveness.¹

EPA and its partners also need to take steps to implement the numerous data requirements designed to provide better protection against the health risks of pesticides under the Food Quality Protection Act. Although EPA took some steps to collect required data for assessing the health risks of pesticides on children, significant data gaps remain. EPA needs to collect more data on aggregate exposure risk and take various steps to improve its cumulative risk assessments, including updating databases and expanding partnerships with other Federal organizations.²

While extensive data have been collected on mercury emissions from coal-fired utilities, data gaps still exist with respect to understanding the effectiveness of specific controls in reducing mercury emissions from coal. In a February 2005 study on the control of mercury emissions, EPA noted that there are data and science gaps associated with existing control technologies that are intended to reduce emissions of other pollutants (with the co-benefit of reducing mercury), as well as with emerging technologies specifically designed to reduce mercury emissions. These mercury emissions uncertainties, which EPA has not yet quantified, could impact the accuracy of the estimated utility emissions entered into EPA's atmospheric models and the resulting deposition estimates.³

In 2006, an OIG audit revealed that data gaps exist regarding the management of hazardous waste units granted interim status under Subtitle C of the Resource Conservation and Recovery Act.⁴ Undoubtedly, EPA must be creative and work collectively with States, tribes, territories, and industry to address many of these immense data gap problems. In its efforts to

address these challenges, EPA implemented a process to identify and prioritize data gaps. This included coordinating the latest draft Report of the Environment (ROE) with the Agency's strategic planning and budgeting processes. In developing EPA's *2006-2011 Strategic Plan*, National Program Managers considered the suite of ROE questions and indicators in an effort to help the Agency develop better environmental performance goals and measures. This effort also set out to help the Agency identify and set priorities for filling gaps in the information needed to manage programs. In the future, EPA must continue its plans to analyze and discuss the ROE indicator gaps and limitations. EPA also must continue to develop new, and strengthen existing, outreach programs to identify how and where EPA can leverage data collection efforts among its partners.⁵

Data Standards and Data Quality

The Agency has a substantive effort in place to develop data standards and provide guidance for their implementation, but incorporating data standards in information collections from initial plans to obtaining the data for analysis is not yet a routine activity in all programs.⁶ Data standards are an essential component of EPA's information program. They promote efficiently sharing environmental information among EPA, States, tribes, and other information partners. Using common data standards among partners ensures consistently defined and formatted data elements and sets of data values, and ensures access to more meaningful environmental data.

EPA has acknowledged the challenge of implementing data standards in Agency systems, and developed a three-pronged corrective action plan involving (1) a communication strategy that promotes awareness of implementation procedures and best practices, (2) tracking implementation of data standards, and (3) a validation strategy to review progress in implementing the standards and the effectiveness of corrective actions. The Agency made considerable progress on the action plan and will continue to track program implementation of data standards and conduct performance reviews of key systems through fiscal 2010.⁷

EPA and its partners also need to continue to focus on ensuring that data are of sufficient quality for decision-making. OIG evaluation and investigative activities involving laboratories' analysis of drinking water samples continue to raise concerns with the integrity of sample results. Without any national studies of water quality data that include examining laboratory integrity, the full extent of the problem remains unassessed. Given the potential impact of poor quality data on human health, EPA should

- assess drinking water laboratory integrity and incorporate promising techniques to identify improper practices and fraud in the laboratory oversight process,
- develop a mechanism to identify, and a policy to address, data in EPA databases from questionable laboratories,⁸ and,
- conduct routine quality assurance and quality control analysis for the non-reporting of violations of drinking water standards and violations of regulatory monitoring and reporting requirements.⁹

EPA considers data quality for drinking water an Agency-level weakness, and originally established a corrective action completion target that extended into 2007.¹⁰ However, EPA still

needs to negotiate several key action items and milestones that may extend the completion date for this weakness into fiscal 2008 or beyond.

Recent OIG work regarding emergencies, such as Hurricane Katrina, also shows an immediate need for decision makers at various levels of government to have reliable water quality data. One of the databases used by EPA to assist in managing environmental data caused local officials difficulty querying the database due to a lack of training and trouble verifying the quality of data due to inconsistent data entry. We recommended that EPA set protocols to address these types of issues.¹¹

Information Technology Systems Development and Implementation

EPA requested approximately \$433 million in system development/maintenance funding for fiscal year 2007.¹² As noted by GAO, major systems development efforts are inherently risky¹³ and EPA has experienced problems similar to those encountered by other Federal agencies.¹⁴ Our report on information technology (IT) project management identified instances where EPA needed to continue efforts to ensure its IT projects met (1) planned budgets and schedules and (2) Agency prescribed system life cycle documentation requirements.¹⁵

Since FY 2006, EPA has made some improvements in the area of IT systems development and implementation. EPA issued an Operational Analysis Guidance document¹⁶ and System Life Cycle Management (SLCM) policy.¹⁷ In addition, EPA (1) completed independent validations for reasonableness for 10 ongoing development projects, (2) validated IT project manager qualifications, and (3) initiated a quarterly certification process for all major IT acquisitions to ensure there is no duplication with the President's E-Gov initiatives.¹⁸

However, despite these efforts, more management control and oversight is necessary to ensure IT projects meet the performance standards established by the Office of Management and Budget (OMB).¹⁹ In particular, EPA needs to take steps to ensure the following.

- High-risk IT projects do not exceed prescribed cost and schedule variances. Recently, EPA reported that 22 percent (4 of 18) of its current high-risk IT projects have cost and schedule variances over 10 percent.²⁰ Despite having qualified project managers for these investments, EPA has experienced: (1) schedule slippages in the Financial System Modernization Project acquisition process, (2) unforeseen schedule delays in system integration planning and testing of interfaces to the Defense Finance Accounting Service payroll system, and (3) a high number of unanticipated and significant technical and systems issues associated with the Agency's E-Travel migration. These problems have resulted in overall schedule variances of Agency systems ranging from 13 to 36 percent over planned milestones.²¹
- EPA regional and program offices complete system life cycle documentation to guide the development of Agency systems, in a timely manner, as required by Agency policy. The OIG conducted follow-up work on EPA efforts to complete key system documentation for major environmental systems. This review showed that EPA offices do not prepare essential documentation as required by Agency policy. In particular,

current audit work identified instances of missing or unapproved System Management Plans (SMP) for major environmental systems.²² The SMP is the principal tool used by System Managers to control, assess, and document the system throughout the system life cycle process.²³ Although EPA is currently revising its SLCM procedures to address these issues, the Agency has not indicated when it will issue the new procedures.²⁴ Inadequate system documentation prevents the OIG from assessing the reliability of the automated application processing controls in EPA's Integrated Financial Management System (IFMS). While EPA has made progress towards replacing IFMS, delays and the lack of documentation continue to result in a reportable condition in the Agency's financial statements.²⁵

- Earned Value Management procedures are strengthened. EPA has not finalized its draft November 2006 Earned Value Management (EVM) Procedures used to assist project managers in collecting and reporting on performance of major IT investments.²⁶ These procedures include (1) implementing modifications to EPA contracts that require the contractor to use EVM procedures and (2) validating the project's performance measurement baseline.²⁷

Managing for Results

EPA programs reviewed using OMB's Program Assessment Rating Tool (PART) continue to receive improved scores. Overall, nearly 90 percent of the 51 programs reviewed have received "adequate" or passing scores. While many of EPA's programs received high PART scores in areas such as program purpose and program management, EPA continues to be challenged in demonstrating program results. Only 24 percent of EPA's programs achieved passing scores in the area of Program Results/Accountability²⁸. According to the PART results, the Agency scored low in this area for several reasons:

- EPA is not regularly conducting independent evaluations of sufficient scope and quality to support program improvements and evaluate program effectiveness.
- EPA does not collect timely and credible performance information, including information from program partners, and use it to manage the program and improve performance.
- EPA programs do not have ambitious targets and timeframes for their long-term measures.
- EPA's budget requests are not tied to accomplishment of annual and long-term performance goals, and resource needs are not presented in a complete and transparent manner in the program's budget.²⁹

To address these factors and better demonstrate results, EPA management needs to make a concerted effort to focus on the logic of program design and to ensure that the Agency designs programs and processes so that it can measure, evaluate, and demonstrate results.³⁰ Designing programs with clear and measurable results allows for transparency of, and accountability for, program performance. EPA also needs to ensure program managers are held accountable for ensuring that programs are designed with the means to measure and demonstrate program results and that the information gathered is used to manage and improve program results.³¹

EPA does not have a systematic process for conducting evaluations of its programs and operations, but rather conducts evaluations on an ad-hoc informal basis.³² The Evaluation Support Division (ESD) in the Office of Policy, Economics, and Innovation serves as the Agency's center of expertise for program evaluation and provides support to the Agency programs when requested.³³ However, with only six FTEs, ESD does not have the work force to conduct a meaningful number of evaluations for the Agency.³⁴ ESD primarily tries to build capacity for program evaluation within the Agency by running a program evaluation competition (PEC), providing performance measurement and program evaluation training, and coordinating an evaluation network. Program and regional managers initiate evaluations of programs within their offices. ESD provides program and regional managers an opportunity to submit proposals for program evaluations from which ESD selects, funds, and manages approximately five evaluations annually under the PEC. While this approach provides coverage for some Agency programs, it does not fully meet the Agency's need for program evaluation.

EPA has limitations to overcome before establishing a systematic approach to program evaluation. Currently, ESD estimates that EPA spends approximately \$1 million annually on program evaluation, up to .03 percent of its budget. Other Federal agencies and corporations, considered leaders in program evaluation, budget for or set aside about 1 percent of their annual budgets, or up to 15 percent per project, for program evaluation. EPA also needs additional staff capable of commissioning and managing independent, high-quality program evaluations with sound methodologies that produce evidence of program effectiveness or guide decisions to improve effectiveness and results. EPA does not have a large community of knowledgeable and experienced evaluators of environmental programs from which it can draw to perform its evaluations. EPA's reliance on States and localities for data on program performance makes obtaining consistent quality data a major challenge for the Agency.³⁵ With the complexity of environmental programs and the difficulty in measuring environmental performance, a well-designed program evaluation function is an important tool that can assist EPA in demonstrating program performance and improving results. Leveraging the evaluative resources provided by GAO and OIG should be part of EPA's plan for addressing this challenge.³⁶

The Agency recently completed its *2006-2011 Strategic Plan* (Plan) which the Agency expects to help focus its efforts on obtaining measurable results. The Plan reported continued improvement in the quality of the Agency's performance measures, its ability to track costs, and its ability to provide this information to managers for their use in managing their programs more effectively. The Plan also highlighted progress in improving the outcome orientation of objectives and targets, analyzing performance trends and budget information to establish budget priorities, and improving and developing performance and financial management reports.³⁷

The OIG recognizes that directly linking public health and environmental improvements to actions by EPA and its partners is a challenging undertaking. Nevertheless, the Agency should continue its efforts to improve its strategic planning and tracking of accomplishments and their associated costs. The Agency needs to evaluate its programs to ensure that they include the means to measure and demonstrate program results. Then it needs to follow through to obtain timely, accurate data that it can use to improve the efficiency and effectiveness of its programs and hold Agency employees accountable.³⁸

Workforce Planning

Achieving EPA's environmental and human health goals depends on the ability to attract, develop, and retain a highly skilled, diverse, and results oriented work force. To accomplish this, EPA leaders must strategically manage their most important resource - human capital. In March 2006, EPA issued its first comprehensive Strategic Workforce Plan to address the challenge of having the right people, at the right location, at the right time.³⁹

Human capital management is one of the government-wide initiatives under the President's Management Agenda (PMA). The PMA initiative requires agencies to improve workforce planning by moving beyond the concept of managing through attrition and replacing employees on a one-to-one basis. Under the PMA, Federal agencies' human capital strategies are required to be linked to organizational mission, vision, core values, goals, and objectives. Further, the PMA requires agencies to use strategic workforce planning as a tool to recruit and retain employees, identify required competencies, and determine the size and location of its workforce.⁴⁰

Audits reports, issued by OIG and GAO between 2000 and 2004, identified significant concerns with EPA's human capital strategy. The reports indicated the Agency's strategy did not (1) explain how to achieve its human capital objectives for protecting the environment, (2) identify the resources needed and the specific milestones for implementing the human capital objectives, and (3) provide results-oriented (outcome) measures to track the Agency's progress and evaluate its success in achieving these objectives.⁴¹

Based in part on these concerns, as well as challenges the Agency faces in meeting requirements under PMA, Human Capital Management has been listed as a top management challenge since 2001. EPA is working closely with OMB and the Office of Personnel Management (OPM) to align the Agency's human capital strategy to meet the objectives outlined in the PMA, as it relates to the strategic management of human capital.⁴²

Actions the Agency is taking, or has completed, to improve workforce planning include:

- Completed a comprehensive Strategic Workforce Plan in March 2006.
- Developed and is currently implementing a Mission Critical Occupation (MCO) competency-based and resource-based approach for identifying occupations deemed critical for the Agency to achieve its mission.
- Identified 19 MCOs and prioritized the list to establish the Agency's first six priority MCOs to be evaluated (Information Technology Specialist, Human Resources Specialist, Leader, Toxicologist, Grant Specialist, and Contract Specialist).
- Adopted OPM's four step model for strategic workforce planning which includes an analysis of the critical occupation supply, demand, gaps, and strategies to address gaps.
- Began applying OPM's four step process to the priority MCOs. As of March 2007, EPA had completed the four steps for the IT Specialist; steps 1 through 3 for Human Resources Specialist and Leader; and step 1 for Toxicologist, Grant Specialist and Contract Specialist.
- Procured a competency assessment tool and is completing competency assessments for toxicologists, grant and contract specialists.⁴³

Despite these accomplishments, the Agency continues to face challenges to workforce planning. A review of the Agency's workforce planning efforts revealed challenges which may affect the Agency's ability to get to "green" status on the PMA scorecard, including the need to:

- Complete the remaining steps in the workforce planning model for the six priority MCOs by the first quarter of FY 2008.
- Assess the remaining 13 MCOs that include occupations key to achieving the Agency's mission, such as health and physical scientists, biologists, chemists, environmental engineers, and support occupations.
- Meet the OPM Senior Executive Service certification requirement by aligning performance goals using a cascading approach.
- Meet OMB and OPM expectations to identify the number of employees and locations for each of the 19 Mission Critical Occupations, as well as narrow any gaps identified.⁴⁴

EPA acknowledges human capital as an Agency-level weakness and is taking actions to strengthen this area.⁴⁵ However, because many of the actions taken are not yet completed or not to a point where their effectiveness can be measured, additional time is needed to determine whether the actions will be effective in addressing EPA's workforce challenges. EPA plans to continue to monitor and report on the progress of its human capital initiatives, assess the overall effectiveness of the Agency strategy for human capital, and determine whether EPA is achieving its desired human capital results.⁴⁶

Efforts in Support of Homeland Security

The Department of Homeland Security (DHS) maintains the lead for the unified national effort to better prepare for, prevent, and respond to potential attacks against the United States from those who seek to harm it. In addition to carrying out its mission to protect human health and the environment, EPA also plays a vital role in homeland security efforts by helping to protect the environment from terrorist acts. EPA has developed technical and scientific expertise that enhances the ability of DHS to address potential terrorist threats. The National Response Plan and several Homeland Security Presidential Directives direct EPA to support, coordinate, or lead responses to incidents of national significance, including terrorist attacks.

EPA has faced unprecedented new challenges in responding to incidents of national significance including the World Trade Center and Pentagon terrorist attacks, and Hurricanes Katrina and Rita. These events further defined and demonstrated the Nation's expectations of EPA's emergency response role. These new expectations have expanded EPA's traditional emergency response functions.

In June 2006, the Agency finalized its *Emergency Response Business Plan* (ERBP or Plan). The stated purpose of the ERBP is to address EPA's overall readiness to respond to five simultaneous incidents of national significance while maintaining effective day-to-day emergency response operations. The Plan identifies national incident scenarios and gaps in resources to respond to the scenarios, and documents the distribution of available emergency response resources in the regions. The OIG evaluated the Plan in 2006 and 2007. We identified planning assumptions and aspects of the planning process that may challenge EPA's ability to rely on the Plan as a valid assessment of its readiness, including:

- The Plan does not provide the rationale for the incidents of national significance on which it is based.
- The Plan does not document the methodology used to determine the required emergency response resources.
- In developing the Plan, EPA conducted little or no coordination with other Federal government response agencies, or State and local emergency response agencies. The Plan does not address the likely involvement of these resources.
- The Plan does not incorporate lessons learned from responses to similar incidents of national significance or incidents involving tasks similar to those described in the Plan.
- The Plan does not address the criteria or responsible agencies for deciding when it is safe for residents to return to areas impacted by the incidents.

We will formally communicate our findings to the Agency and will continue to monitor Agency progress in ensuring readiness to meet its homeland security responsibilities.

Efficiently Managing Water and Wastewater Resources and Infrastructure

America's water assets are critical to the country's public health and economic, environmental, and cultural vitality. About 160,000 public drinking water systems and 16,000 sewage treatment plants throughout the Nation supply fresh water and remove and treat used water. Over the past 20 years, communities have spent more than \$1 trillion (in 2001 dollars) on drinking water treatment and supply, and wastewater treatment and disposal. Still, these systems are projected to have huge costs to repair, replace, and construct new water infrastructure. Current systems are wearing out, and recent and future environmental requirements from EPA will necessitate additional investments.

In 2002, EPA estimated the 20-year water infrastructure capital needs as ranging between \$485 billion and \$896 billion. EPA annually commits funding to the Clean Water and Drinking Water State Revolving Funds (SRFs) to ensure that communities have access to capital for their drinking and wastewater infrastructure needs. The 2008 President's Budget proposes \$688 million for the Clean Water SRF and \$842 million for the Drinking Water SRF⁴⁷. These amounts are unchanged from the prior year's budget submission.

EPA has to find ways to be more innovative on the finance and management fronts to assist States and communities in overcoming infrastructure issues. OIG reports on such topics as Drinking Water Protection Efforts, Source Water Protection, Small Drinking Water Systems⁴⁸, Combined Sewer Overflows and State Revolving Funds have identified funding as a significant barrier to progress. Our work has shown that a competition exists between infrastructure and other priority water needs (e.g. drinking water source protection, regulatory program implementation, security) for the limited available SRF money.

Funding requirements can be more difficult for small systems to meet, impeding their ability to obtain much needed resources. The Agency faces a continuing challenge to find ways to reach and influence the management behavior, skills, and abilities of thousands of small utilities. Preparing and publishing documents, and convening workshops reach only a small

portion of the systems that need EPA's expertise. Recent OIG work shows that lack of long-term planning, management and operator competencies and retention, and problems understanding regulations continue to be challenges for small utilities. Good practices, such as mentoring programs by larger utilities, show promise for wider application to benefit small utilities and could help address the management issues that are a component of the water infrastructure challenges. EPA needs to define its role as part of a long-term National strategy on sustainable water infrastructure that addresses financial and management issues, so that the Nation's water quality is protected now and in the future.

In addition, EPA regulations and policies allowing States to use bonds repaid from SRF interest to meet SRF match requirements are resulting in fewer dollars being available for water projects. Twenty States have used the Clean Water SRF to repay bonds issued to meet the required fund match, and 16 of those States also did so for the Drinking Water SRF. Further, four States used short-term bonds for their State match and then retired those bonds from SRF funds within a week of issuing them. These practices have resulted in an estimated \$937 million less available for loans since the inception of the SRF programs. We acknowledge that States have funding limitations and depend on legislatures for funding. Nonetheless, the majority of States have been able to finance their 20-percent match without using bonds financed by the SRFs, and we believe this is a goal toward which all States should strive.⁴⁹

EPA has approached this challenge by focusing on its "Four Pillars of Sustainable Infrastructure" – better management, water efficiency, full cost pricing, and the watershed approach. While EPA hopes to build upon these "pillars" using the tools of technology, innovation, and collaboration, it is faced with the challenge of trying to do more with less. In the absence of growth in Federal funding, EPA has taken a non-financial and non-regulatory approach to meet the infrastructure challenge. For example, in the past year it established a voluntary program to conserve water ("WaterSense"), issued a "green infrastructure" policy, and convened a national conference on sustainable infrastructure. The Agency recognizes that much more remains to be done and recently pointed to the need for innovative actions and technologies for closing the infrastructure gap. However, the critical question for the agency is whether EPA's approach is adequate to the infrastructure challenge.

Emissions Factors for Sources of Air Pollution

Emissions factors are used to develop the emissions data that are the cornerstone of a host of important environmental decisions made by EPA; State, local, and tribal agencies; industries; environmental groups; and others.⁵⁰ Emissions factors are used for about 80 percent of emissions determinations for sources of air pollution.⁵¹ These decisions include facility permitting, developing control strategies, making compliance and enforcement decisions, measuring environmental progress, and demonstrating program results under Government Performance and Results Act.⁵² Without reliable emissions factors, users cannot be sure that (1) air pollution control strategies target the right industries or products, (2) permitting programs include all required sources and establish proper emissions limits, and (3) air programs are effective in reducing air pollution.⁵³

The Agency faces significant challenges in improving emissions factors. A March 2006 OIG evaluation found (1) conflicting guidance on the appropriate use of emissions factors, (2) a

rating system that did not quantify the uncertainty associated with the emissions factors, (3) inadequate funding of the emissions factor program, and (4) the lack of a comprehensive plan to improve data collection and set emissions factor priorities.⁵⁴ These management-related issues continue to contribute to the impairment of emissions factor development, hampering achievement of the Clean Air Act's requirements and major Air program goals.⁵⁵

As a result, emissions factors are being inappropriately used for key environmental decisions.⁵⁶ For example, emissions factors have been used for non-inventory purposes, such as setting permit limits and reporting the level of air pollution control at specific facilities.⁵⁷ For three industry sectors EPA examined, inappropriately using emissions factors contributed to more than one million tons of pollutants not being controlled.⁵⁸ EPA guidance states that the user must take into account the uncertainty of the emissions factor when considering its use;⁵⁹ however, emissions factor uncertainty is little understood, leading to inappropriate uses.⁶⁰ For example, the fiberglass industry believed EPA emissions factors were overestimating its emissions so it developed new emissions factors.⁶¹ However, instead of decreasing estimated emissions for the industry, the improved emissions factors increased the estimated emissions for the fiberglass industry by about 100 percent.⁶²

EPA is shifting its efforts toward more direct, continuous monitoring and measurement of emissions from all major emissions sources.⁶³ However, increased demand for low-cost environmental data is driving the need for more quality emissions factors.⁶⁴ Use of emissions factors will continue for a broad array of environmental decisions for years to come, including measuring and reporting environmental progress.⁶⁵ For example, EPA is planning to use emissions factor derived data to make decisions regarding the risks that remain after air toxics technology-based standards have been implemented, and to decide the effectiveness of existing air toxics practices, processes, and control technologies.⁶⁶ If EPA can improve the quality of its factors, this should improve environmental decision-making for reducing air pollution.⁶⁷ However, if EPA continues to use insufficient measures to determine program results, the Agency may not be reaching the goals it has claimed to reach, the air may not be as clean as the Agency claims,⁶⁸ and EPA and States may make misinformed decisions for the most promising future actions to improve air quality.⁶⁹

EPA has recently taken steps to improve the quality of the emissions data used to make environmental decisions through the development of a Quality Management Plan.⁷⁰ The purpose of this management plan is to help ensure that data generated by or for the Agency are of known and acceptable quality.⁷¹ In addition, EPA completed a statistical study of the uncertainty associated with published emissions factors that are based on emissions testing data.⁷² While progress has been made since our 2006 report, the Agency's challenges are to address the large number of emissions factors rated low; ensure stable, sufficient funding to address underlying data gaps and limitations;⁷³ limit decisions made with poor quality emissions factors; and provide significant non-regulatory incentives to industry, State, and local agencies to provide EPA with the data the Agency has long sought to improve the quality of emissions factors.⁷⁴

Privacy Program

With the increased scrutiny regarding the protection of personally identifiable information (PII), Federal agencies' privacy programs have become the subject of recent oversight by OMB.⁷⁵ EPA, like many agencies, has found it a challenge to remain focused on its privacy responsibilities and integrate privacy into the evolving nature of E-Government and other mandated privacy activities. EPA is currently in the process of re-establishing its Privacy Program (Program).⁷⁶ However, recent OIG audit work discovered that EPA needs to implement a more comprehensive management control structure to govern and ensure its Privacy Program's success. In particular, EPA needs to strengthen its management controls over developing and distributing key privacy guidance, monitoring the effectiveness of the Program, and putting processes in place to measure the Agency's compliance with key privacy program tenets.⁷⁷

EPA needs to update the overarching policy that outlines the administration and management of the Program and establish a structure to ensure key privacy policies, procedures, and guidance are readily available to personnel responsible for implementation. The current Program policy is outdated and lacks the specificity needed for EPA offices to understand the Program's standards or the duties and responsibilities of those responsible for implementing the program. Furthermore, EPA needs to complete projects to develop a centralized location where key privacy guidance documents are accessible. EPA has indicated it plans to establish (1) an intranet site for posting privacy policies, procedures and guidance; and (2) a privacy liaison structure within each EPA office to ensure key documents are distributed. EPA indicated that it is currently updating the Privacy Program policy; however, the project intended to make key privacy guidance documents available on the Agency's intranet site is on hold, without any planned completion milestone date. Likewise, the Agency has not set a milestone date for establishing the envisioned privacy liaison structure.

EPA also needs to complete plans for ensuring compliance with the Agency's Privacy Program's policies and procedures,⁷⁸ and establishing an effective oversight process to perform compliance evaluations or inspections.⁷⁹ Like many of the Privacy Program provisions, establishing a monitoring process is still in the planning stage.⁸⁰ EPA's Privacy officials indicated they plan to monitor compliance by using the Privacy Program liaison structure, established at the program and regional office level. Privacy officials also plan to ensure that the Agency is not collecting unnecessary PII and that required forms have legally sufficient Privacy Act Statements. However, none of these activities has been initiated nor has a target date been set for their implementation.⁸¹

In addition, EPA needs to continue its efforts to establish practices that will help Privacy Program managers effectively measure the success of the Program. Although the Agency's Privacy Program is still in the infancy stage, EPA needs to establish a formal plan with milestones to identify the activities to be performed and performance measures for assessing progress.

Managing an effective Privacy Program will require EPA to work closely with its program and regional offices to ensure they develop and implement a successful program,

thereby meeting the requirements for protecting PII collected by the Agency. Although EPA is poised to meet this challenge, it needs an effective, yet flexible, management control structure to oversee what will be an evolving process. Furthermore, EPA needs to aggressively complete and implement key Privacy Program guidance and other vital planned activities.

Voluntary Programs


EPA supports and advocates for a range of voluntary programs designed to provide flexibility and novel and beneficial approaches to achieve environmental goals. The basic premise of voluntary approaches is flexible, collaborative, market-driven solutions that can deliver measurable environmental results. These programs primarily work with business, community, or other partners to either reduce pollution below regulatory requirements, or ameliorate environmental problems not otherwise regulated by EPA (e.g. water and energy use, recycling).⁸² In 2002, EPA released an innovation strategy that described EPA activities and priority issues.⁸³

Voluntary programs have proliferated in recent years and now address a wide variety of environmental challenges.⁸⁴ However, their growth has not been matched by appropriate organization and oversight. Recent OIG work illustrates that EPA does not have Agency-wide policies that require the inclusion of key evaluative elements such as standardized management processes, consistent and reliable data, and uniform operational guidelines that allow for comparative assessment. EPA has not developed specific definitions that help EPA staff to categorize or identify these diverse voluntary programs. Finally, EPA has not implemented a systematic process to develop, test, and market voluntary programs, or to regularly evaluate the effectiveness of these programs. As a result, EPA cannot identify a consistent population of voluntary programs, there are no policies requiring voluntary programs to have comparative programmatic elements, and there is no systematic process in place to regularly assess the effectiveness of these programs. In addition, we found shortcomings in EPA's "gold standard" voluntary programs with quality controls, performance measurement, and strategic planning.⁸⁵

Clearly, EPA must be innovative and flexible, and adapt to changes in environmental protection to continue progress toward environmental goals. The challenge is to maintain those vital elements of the existing system, such as the standards, permits, and compliance assurance efforts which are part of EPA's basic mandate, while simultaneously pursuing creative new tools and approaches that complement and enhance the Agency's efficiency and effectiveness.

In 2004, the Innovation Action Council was charged with voluntary program oversight and created the Voluntary Program Coordination team. This team has issued several guidance documents and has attempted to stay in regular contact with many of the voluntary programs.

However, it does not have Agency-wide oversight authority to conduct day-to-day management functions, or to develop management procedures, measurement protocols, or outcome reporting requirements. EPA can take steps to address these oversight, evaluation and management challenges to maximize potential environmental benefits of voluntary programs.



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NOTES

¹ *Improved Management Practices Needed to Increase Use of Exchange Network (Discussion Draft Audit Report)* OIG Audit Report Assignment No. 2006-000212, dated April 2007.

² *Opportunities to Improve Data Quality and Children's Health through the Food Quality Protection Act*, OIG Report No. 2006-P-00009, January 10, 2006.

³ *Monitoring Needed to Assess Impact of EPA's Clean Air Mercury Rule on Potential Hotspots*, OIG Report No. 2006-P-00025, May 15, 2006.

⁴ *EPA's Management of Interim Status Permitting Needs Improvement to Ensure Continued Progress*, OIG Report No. 2007-P-00005, December 4, 2006.

⁵ *EPA's Responses to Major Management Challenges 08 CJ, Final*, February 2, 2007.

⁶ Office of Environmental Information (OEI) FY 2005 Integrity Act Report, *Implementation of Data Standards*, Attachment 2, Page 2, regarding OEI's weaknesses for an October 5, 2005, Management Integrity Meeting.

⁷ U.S. Environmental Protection Agency *Performance and Accountability Report*, Fiscal Year 2005, Appendix C, Data Quality, C18.

⁸ *Promising Techniques to Improve Drinking Water Laboratory Integrity and Reduce Public Health Risk*, OIG Report No. 2006-P-00036, September 21, 2006.

⁹ U.S. Environmental Protection Agency *Performance and Accountability Report*, Fiscal Year 2005, Appendix C, Data Quality, C18.

¹⁰ U.S. Environmental Protection Agency *Performance and Accountability Report*, Fiscal Year 2005, Appendix C, Data Quality, C18.

¹¹ *Lessons Learned: EPA's Response to Hurricane Katrina*, OIG Report No 2006-P-00033, September 14, 2006.

¹² E-mail from OEI, *Total Dollars for Major IT Investments in the Development Phase of the System Life Cycle*, March 31, 2006.

¹³ GAO Report No.06-184, *Financial Systems Modernization*, March, 2006, 3.

-
- ¹⁴ GAO Report No. GAO/AIMD-96-64, *Information Technology Investment - Agencies Can Improve Performance, Reduce Costs, and Minimize Risks*, September 1996, 4-5.
- ¹⁵ *EPA Needs to Improve Oversight of Its Information Technology Projects Report*, OIG Report No. 2005-P-00023, September 14, 2005, 4-5.
- ¹⁶ EPA Operational Analysis Guidance, Version 1.0, April 21, 2006 < <http://intranet.epa.gov/cpic/evm/cpic-oa-guidance-o42106.doc>>.
- ¹⁷ System Life Cycle Management (SLCM) Policy < <http://intranet.epa.gov/oei/imitpolicy/qic/ciopolicy/2100.5.pdf> >.
- ¹⁸ E-mail from EPA official, April 7, 2007, responding to OIG 2006 management challenge memo.
- ¹⁹ OMB Memorandum M-05-23, *Improving Information Technology (IT) Project Planning and Execution*, August 4, 2005.
- ²⁰ E-mail from EPA representative, March 29, 2007, with attached EPA FY07 2nd Qtr High Risk Report.
- ²¹ E-mail from EPA representative, March 29, 2007, with attached EPA FY07 2nd Qtr High Risk Report.
- ²² OIG Interview with EPA Program Office on March 15, 2007.
- ²³ System Life Cycle Management Procedure < http://intranet.epa.gov/otop/policies/Extended_DraftProcedures.pdf>.
- ²⁴ System Life Cycle Management Procedure.
- ²⁵ *Audit of EPA's Fiscal 2006 and 2005 Consolidated Financial Statements*, OIG Report No. 2007-1-00019, November 15, 2006, Attachment 3.
- ²⁶ EPA Earned Value Management Procedures < <http://intranet.epa.gov/cpic/evm/evm-procedures-draft.doc>>.
- ²⁷ E-mail from OEI official, April 7, 2007, responding to OIG 2006 management challenge memo.
- ²⁸ PART results – Source OMB Website Expect More.Gov and OIG analysis of PART results.
- ²⁹ PART results – Source OMB Website Expect More.Gov and OIG summary of PART results.
- ³⁰ OIG conclusion based on PART results.
- ³¹ PART results – Source OMB Website Expect More.Gov and OIG analysis of PART results.
- ³² EPA, OPEI, ESD website, Developing Program Evaluation Capacity <http://www.epa.gov/evaluate/about_environpe.htm>
- ³³ Office of Administrator Functional Statement, 14-16.
- ³⁴ Information provided by OPEI in response to an OIG questionnaire on EPA's program evaluation activities, w/p J-6.2a-1 (question 9) for the Macro Risk Assessment Assignment 2007-520.
- ³⁵ Information provided by OPEI in response to an OIG questionnaire on EPA's program evaluation activities, w/p J-6.2a-1 (question 9) for the Macro Risk Assessment Assignment 2007-520.
- ³⁶ OIG conclusion.
- ³⁷ *2006-2011 EPA Strategic Plan, Charting Our Course*.
- ³⁸ OIG Conclusion based on PART analysis and program evaluation analysis.

-
- ³⁹ U.S. EPA Strategic Workforce Plan FY 2006, March 2006.
- ⁴⁰ The President's Management Agenda, Fiscal Year 2002, 11-15.
- ⁴¹ EPA Performance Accountability Report, 205-206.
- ⁴² EPA Performance Accountability Report, 205-206.
- ⁴³ E-mail correspondence from OARM/OHR/HCMD/HCPB, March 14, 2007, March 19, 2007, March 20, 2007, and March 26, 2007; EPA Human Capital Management FY07 Q2 Scoring Preliminary Summary; EPA Human Capital FY01 Q1 Summary (Talent/Strategic Alignment, Item #4a); EPA Mission Critical Occupations Selection Report, September 2006.
- ⁴⁴ E-mail correspondence from OARM/OHR/HCMD/HCPB, March 21, 2007; Strategic Workforce Planning Handout from OARM's October 24, 2006 Human Resource Council Meeting; Human Capital PMA Talking Points for the Deputy Administrator December 7, 2006.
- ⁴⁵ EPA Performance Accountability Report, 205-206.
- ⁴⁶ EPA Performance Accountability Report, 205-206.
- ⁴⁷ Environmental Protection Agency 2008 Annual Performance Plan and Congressional Justification, <<http://www.epa.gov/ocfo/budget/2008/stag.pdf>>
- ⁴⁸ *Much Effort and Resources Needed to Help Small Drinking Water Systems Overcome Challenges*, OIG Report No. 2006-P-00026.
- ⁴⁹ *EPA's Allowing States to Use Bonds to Meet Revolving Fund Match Requirements Reduces Funds Available for Water Projects*, OIG Report No. 2007-P-00012.
- ⁵⁰ *EPA Summary of Emissions Factors Improvements Projects Fact Finding Survey*, June 2004, 1.
- ⁵¹ GAO Report No. GAO-01-46 *EPA Should Improve Oversight of Emissions Reporting by Large Facilities*, April 2001, 3.
- ⁵² *EPA Summary of Emissions Factors Improvements Projects Fact Finding Survey*, June 2004, table 2.
- ⁵³ *EPA Can Improve Emissions Factors Development and Management*, At a Glance.
- ⁵⁴ OIG Report No. 2006-P-00017, 15-24.
- ⁵⁵ OIG Report No. 2006-P-00017, 15-24; Memorandum: Inspector General's Candidates for Fiscal 1996 Weaknesses, To: Sallyanne Harper, Acting Chief Financial Officer, Attachment 2.
- ⁵⁶ *EPA Can Improve Emissions Factors Development and Management*, OIG Report No. 2006-P-00017, At a Glance.
- ⁵⁷ OIG Report No. 2006-P-00017, At a Glance.
- ⁵⁸ OIG Report No. 2006-P-00017, At a Glance.
- ⁵⁹ "Procedures for Preparing Emission Factor Documents," EPA-454/R-95-015 revised, Office of Air Quality Planning and Standards, Office of Air and Radiation, U.S. Environmental Protection Agency, November 1997,.8; Introduction to AP-42, Volume 1, Fifth Edition – January 1995, 4-5.
- ⁶⁰ *3.0 Options for Revising Factor Quality Assessment* prepared by MACTEC for Emission Factors and Policy Application Group, EMAD, OAQPS, OAR, August 2004, 2-4.

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- ⁶¹ E-mail Response from Indiana Department of Environmental Management, September 22, 2005.
- ⁶² E-mail Response from Indiana Department of Environmental Management, September 22, 2005.
- ⁶³ *EPA Can Improve Emissions Factors Development and Management*, OIG Report No. 2006-P-00017, 32.
- ⁶⁴ Document prepared for OIG, by Emission factors and Policy Application Group, EMAD, OAQPS, OAR, January 6, 2005; OIG Report No. 2006-P-00017, 35.
- ⁶⁵ OIG Report No. 2006-P-00017, 35, note 1.
- ⁶⁶ EPA Science Advisory Board “Minutes from the EPA Science Advisory Board Risk and Technology Review Consultative Panel Public Teleconference”, December 19, 2006, 3; http://www.epa.gov/sab/panels/consul_risk_and_tech_assessment_plan.htm.
- ⁶⁷ OIG Report No. 2006-P-00017, 26, 35, note 1.
- ⁶⁸ OIG Report No. 2006-P-00017, 25.
- ⁶⁹ OIG Report No. 2006-P-00017, 25.
- ⁷⁰ EPA’s Office of Air Quality Planning & Standards, *The OAQPS Quality Management Plan*, October 2006; <<http://oaqpswww.epa.gov/oaqpsprograms/oaqpsqual.html>>.
- ⁷¹ EPA’s Office of Air Quality Planning & Standards, *The OAQPS Quality Management Plan*, October 2006, section 1, fifth paragraph; <<http://oaqpswww.epa.gov/oaqpsprograms/oaqpsqual.html>>.
- ⁷² Emissions Factors and Policy Applications Center, *Emissions Factors and Policy Application Center Highlights for 2006*, January 2007; < <http://www.epa.gov/ttn/chief/efpac/efpachilites.html>>.
- ⁷³ OIG Report No. 2006-P-00017, At a Glance.
- ⁷⁴ OIG Report No. 2006-P-00017, 17-19, 23–25: OIG opinion.
- ⁷⁵ Office of Management and Budget Memorandum M-06-15, *Safeguarding Personally Identifiable Information*, May 22, 2006.
- ⁷⁶ Office of Environmental Information Functional Statement, Office of Information Collection, Records, FOIA, and Privacy Branch.
- ⁷⁷ Review of EPA’s Protection of PII & Privacy Program, Audit No. 2007-175, Working Paper M-3, regarding *Summarization of Macro-Risk Assessment Objective-3 Policy – Privacy*.
- ⁷⁸ Review of EPA’s Protection of PII & Privacy Program, Audit No. 2007-175, Working Paper I-1, regarding *Privacy Program--Policy Evaluation*.
- ⁷⁹ Review of EPA’s Protection of PII & Privacy Program, Audit No. 2007-175, Working Paper K-1, regarding *Privacy Program--Monitoring Evaluation*.
- ⁸⁰ Review of EPA’s Protection of PII & Privacy Program, Audit No. 2007-175, Working Paper K-1, regarding *Privacy Program--Monitoring Evaluation*.
- ⁸¹ Review of EPA’s Protection of PII and Privacy Program, Audit No. 2007-175, Working paper M-2, regarding Documentation of Privacy Interview Responses.
- ⁸² EPA Everyday Choices: Opportunities for Environmental Stewardship, December 2005.
- ⁸³ EPA *Innovating for Better Environmental Results: A Strategy to Guide the Next Generation of Innovation at*

EPA, April 2002.

⁸⁴ *Partnership Programs May Expand EPA's Influence*, OIG Report No. 2007-P-00003, At a Glance.

⁸⁵ *Performance Track Could Improve Program Design and Management to Ensure Value*, OIG Report No. 2007-P-00013, At a Glance.