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

OFFICE OF
INSPECTOR GENERAL

**July 2, 2008**

**MEMORANDUM**

**SUBJECT:** EPA's Key Management Challenges for Fiscal Year 2008

**TO:** Stephen L. Johnson
Administrator

We are pleased to provide you with the list of items the Office of Inspector General (OIG) considers to be the key management challenges for Fiscal Year 2008 confronting the U.S. Environmental Protection Agency. This year the OIG developed a definition for management challenges to clarify and distinguish between internal control weaknesses and management challenges. In general, internal control weaknesses are deficiencies in internal control determined in relation to a standard derived from the concept of internal control as an activity. In contrast, management challenges are defined as a lack of capability derived from internal self-imposed constraints or, more likely, externally imposed constraints that prevent an organization from reacting effectively to a changing environment. For example, lack of controls over approval of bankcard purchases would be considered a control weakness because it can be corrected by adding the necessary controls. Conversely, the Agency's ability to address an issue such as funding shortfalls for water infrastructure repairs would constitute a management challenge because the Agency does not have the ability to solve this challenge without outside assistance, such as from Congress and States.

Our decision to include the areas listed is based primarily on audit, evaluation, or investigative work we performed and additional analysis of Agency operations. Thus, it is possible that additional challenges exist in areas that we have not yet reviewed or that other significant findings could result from additional work. Our key management challenges are listed below with detailed summaries provided in Attachment 1. We would welcome the opportunity to discuss your reaction to the list and any comments you might have.

We removed Data Standards and Data Quality, Emissions Factors for Sources of Air Pollution, Privacy Program, Information Technology System Development and Implementation, and Workforce Planning from this year's management challenges list, and they are currently included as proposed internal control weaknesses. Emissions Factors for Sources of Air Pollution is included as a part of the internal control weakness titled Data Standards and Data Quality. The previous challenges Managing for Results and Data Gaps have been combined and the title changed to Performance Measurement. Voluntary Programs has been removed from the current list, but we are including an update on the actions and concerns remaining for Voluntary Programs.

Bill A. Roderick
Deputy Inspector General

Attachment

**Attachment 1**

## Threat and Risk Assessments

EPA needs to periodically assess threats to human health and the environment across media to ensure that resources and priorities focus on the highest risks, regardless of the source. Presently, EPA's strategic goals stress reducing risks to human health and the environment from distinct sources – such as air pollution, water pollution, and hazardous releases on land.[1] This is feasible because EPA invests in science to enhance its understanding of health and ecological implications, enabling it to identify and develop risk assessment methodologies. Risk assessors can use these methodologies to evaluate the adequacy of current exposure assessment approaches.[2] Risks are assessed within each of the Agency's strategic goals – for example, for air pollution effects, radiation, waste treatment, Superfund cleanups, etc. However, the Agency does not assess threats to human health and the environment across media to ensure EPA's actions are designed to reduce total risk in the most efficient manner.

Nearly 20 years ago the Science Advisory Board (SAB) recommended that EPA target its environmental protection efforts on the basis of opportunities for the greatest risk reduction.[3] This 1990 report described the fragmentary nature of U.S. environmental policy and the frequently inconsistent and uncoordinated efforts to address environmental problems. Based on the OIG's body of work, we believe the same problem exists today. The fragmentary nature of EPA's approach continues because the underlying conditions remain: environmental laws are often focused on a single media or threat, Agency goals and units are designed to implement separate legislative mandates, and available technological solutions address specific pollutant sources.[4] Some EPA programs, like the Chesapeake Bay Program and the Border 2012 Program, are designed to address ecosystem or geographically defined environmental issues rather than single media concerns. However, even these are organized and implemented to solve the threats and risks faced by individual media. For example, the Border 2012 goals are to reduce water contamination, reduce air pollution, reduce land contamination, etc. The relative threats and risks to human health and the environment are not determined or used to prioritize EPA's efforts.

A need to measure the human health impacts of EPA programs and measure the total reductions in pollution hazard and exposure has been recognized by the Office of Management and Budget. For example, the Office of Management and Budget asked the Office of Enforcement and Compliance Assurance (OECA) to develop and apply measures that assessed the human health impacts of pollution reduction achieved by enforcement and compliance assurance activities, rather than output measures (pounds of pollution reduced).[5]

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[1] FY 2008 EPA Budget in Brief.

[2] Testimony of Stephen L. Johnson before the Senate Committee on Environment and Public Works, February 27, 2008.

[3] *Reducing Risk: Setting Priorities and Strategies for Environmental Protection*, EPA-SAB-EC-90-021, September 1990.

[4] *Reducing Risk: Setting Priorities and Strategies for Environmental Protection*, EPA-SAB-EC-90-021, September 1990.

[5] OECA Memorandum, re: Request for the IG's Assistance to Improve and Expand OECA's Use of Outcome-Based Performance Measures, September 29, 2004.

EPA could benefit from a periodic risk assessment to validate its priorities. For example, the Department of Defense conducts a Quadrennial Review designed to identify threats and risks faced by the military and then define appropriate strategies, priorities, and resources. An independent comprehensive risk assessment would help ensure that EPA can establish appropriate risk-based priorities in its strategic planning and budgeting processes. The diminishing resources available for environmental protection increase the need to ensure that EPA does not expend resources on lower-priority problems at the expense of higher-priority risks. As the SAB concluded previously, "If priorities are established based on the greatest opportunities to reduce risk, total risk will be reduced in a more efficient way, lessening threats to both public health and local and global ecosystems."[6]

To create and implement a risk-based strategy, EPA should revisit recommendations originally proposed by the SAB to establish the necessary institutional framework and scientific capabilities.[7] For example, EPA should assign a specific management focal point for assessing risk and to assure accountability, establish a risk reduction framework, establish a formal mechanism for risk anticipation, and expand long-range research on assessing human exposure and the toxicological science base. Moreover, to institutionalize a relative risk assessment process, EPA will need to ensure that it has the trained personnel and scientific databases that lead to credible analyses and policy.

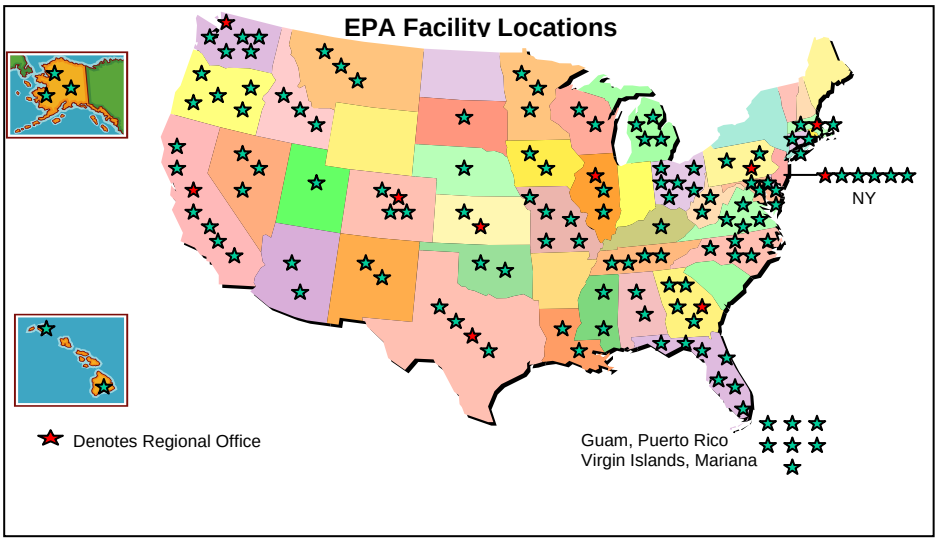
[6] *Reducing Risk: Setting Priorities and Strategies for Environmental Protection*, EPA-SAB-EC-90-021, September 1990, p.2.

[7] *Reducing Risk: Setting Priorities and Strategies for Environmental Protection*, EPA-SAB-EC-90-021, September 1990, p.6; *Reducing Risk Appendix A: The Report of the Ecological and Welfare Subcommittee*, EPA-SAB-EC-90-021A, September 1990, pp.66-70; *Relative Risk Reduction Project*. *Reducing Risk Appendix B: The Report of the Human Health Subcommittee*, EPA-SAB-EC-90-021B, September 1990, pp.6-10; *Relative Risk Reduction Project Reducing Risk Appendix C: The Report of the Strategic Options Subcommittee; Relative Risk Reduction Project*, EPA-SAB-EC-90-021C, September 1990, p.26;

## EPA's Organization and Infrastructure

In July 1970, the first Administrator formally organized EPA. The original organizational structure was based upon existing environmental legislation and encompassed discrete media programs for water, air, pesticides, radiation, and solid waste, as well as 10 regional offices and a handful of laboratories inherited from other federal agencies.[8] Since that time additional responsibilities have been delegated to EPA. For example, in recent years, EPA was assigned additional Homeland Security responsibilities.[9] In addition, how EPA carries out its programs has changed. Implementation of many environmental programs has been delegated to the States with EPA's role evolving to planning and oversight. In recent years, EPA has increased the extent to which it partners with other federal agencies; State, local, and tribal governments; and the private sector to accomplish its mission.[10]

Since its inception, the number of EPA personnel has grown from about 5,000 to over 18,000.[11] As the number of personnel has increased, so has EPA's infrastructure. EPA's portfolio now includes 204 offices and laboratories in 141 locations throughout the country.[12] Some EPA regions maintain the majority of the staff in a main regional headquarters office, while others also maintain a number of separate operations offices located in States.[13] For example, California and Florida each have seven separate EPA offices. EPA's Office of Research and Development maintains 13 independent laboratories, while EPA's regional offices maintain separate regional laboratories. EPA maintains two offices each in Guam, Puerto Rico, and the Virgin Islands.




[8] *Studies Addressing EPA's Organizational Structure*, EPA OIG Report No. 2006-P-00029, August 16, 2006
[9] EPA Strategic Plan for Homeland Security September 2002
[10] http://www.epa.gov/ocir/nepps/jps.htm
[11] Personnel figures – EPA's Office of Human Resources
[12] EPA Office of Human Resources
[13] Ref – EPA Region 10 Organization

Of EPA's 204 facilities, there are 49 with just 1 person and 88 which house 5 or fewer employees.[14] According to EPA's Office of Administration and Resources Management, many of the small offices are temporary in nature and are established to handle a specific situation.

Part of the President's Management Agenda calls for federal agencies to strategically address human capital. One of the action items in the Agenda calls for an analysis of existing organizational structures from service and cost perspectives, and implementing a plan for optimization using various tools, including redeployment, restructuring, and competitive sourcing. The Agency's current strategic plan calls for having the "right people, in the right place, at the right time." However, since EPA's formation in 1970, a comprehensive study has not been completed to analyze EPA's mission and the related number and location of employees needed to most effectively carry out EPA's mission at the least cost. For example, with the increase in programs delegated to the States, EPA's role and ability to conduct effective oversight of States becomes increasingly important. EPA might conduct an evaluation of the costs and benefits realized by those regions maintaining separate operations offices in States versus maintaining large regional offices. EPA might also consider conducting a review of the rationale and benefits associated with maintaining its cadre of regional and Research and Development laboratories around the country to determine whether they are sited in the appropriate locations for the type of work performed.

Maintaining over 200 facilities is resource-intensive. For Fiscal Year (FY) 2008, the budget for maintaining EPA's facilities is nearly half a billion dollars.[15] Demonstrating the effectiveness of these operations as well as the cost effectiveness of maintaining over 200 locations presents EPA with challenges and opportunities for potential consolidation and cost savings. Because of the autonomous nature of EPA and its regional and local offices, undertaking such a study may require the assistance of an independent commission and agreement from EPA's many oversight committees. With diminishing resources along with growing pressure to expand EPA's role in the global arena, EPA will be challenged to reduce operating costs while expanding its mission. A comprehensive study to assess EPA's mission, workforce, and infrastructure requirements would provide a rational basis for addressing these challenges.

[14] OIG analysis of EPA Office of Human Resource data
[15] OIG analysis of EPA budget

## Performance Measurement

Congress' desire to hold agencies accountable for performance was the motivating force behind the Chief Financial Officers Act of 1990 and the Government Performance and Results Act of 1993. While the Chief Financial Officers Act established the foundation for improving management and financial accountability, the Government Performance and Results Act created requirements for agencies to generate performance information that congressional and executive branch decision makers need in considering measures to improve government and reduce costs.[16]

EPA has been recognized for its efforts to align its budgeting, planning, and accounting systems to track and report on resource use. However, EPA continues to be challenged in measuring the human health and environmental results of its environmental programs. Despite the vast array of data reported and contained in EPA's information systems, the Government Accountability Office (GAO), the States, regulated entities, and EPA have pointed out that the Agency does not have much of the information it needs pertaining to environmental conditions and trends and the potential human health risks of various pollutants. This makes it difficult to evaluate and report on the benefits derived from environmental activities and make optimal decisions about how to invest EPA's resources to maximize environmental results.[17]

During a recent audit, we found that while many of EPA's programs received high scores for the program purpose and program management categories on the Office of Management and Budget's Program Assessment Rating Tool, EPA did not receive high marks for using information to manage programs and demonstrate results. Of the 51 programs reviewed, 41 percent (21 programs) did not regularly collect timely and credible performance information, including information from key program partners, and use it to manage the program and improve performance.[18]

EPA is challenged in measuring its performance because measuring environmental results is inherently difficult. Results are not always immediately recognized and programs may take several years to demonstrate results. In addition, linking environmental activities to outcomes is complicated by a myriad of external factors, including weather, international environmental issues, economic activity, and others which are outside of EPA's control.[19] As a result, many of EPA's performance measures focus on program activities[20] (number of enforcement actions, pounds of hazardous waste reduced, number of permits issued, number of training sessions held, etc.). While these may be good indications of amount of work performed, they do not measure the corresponding improvements to human health or the environment. Compounding these factors, a majority of EPA's performance information is collected and reported by program

[16] Chief Financial Officer Act of 1990, Government Performance and Results Act of 1993
[17] *Using the Program Assessment Rating Tool as a Management Control Process*, EPA OIG Report No. 2007-P-00033, September 12, 2007
[18] *Using the Program Assessment Rating Tool as a Management Control Process*, EPA OIG Report No. 2007-P-00033, September 12, 2007
[19] *EPA's Progress in Using the Government Performance and Results Act to Manage for Results*, EPA OIG Report 2001-B-000001, June 13, 2001
[20] *EPA Strategic Plan 2006-2011*, September 30, 2006

partners who do not always agree on how and what information should be collected or tracked, and who do not report the information to EPA in a consistent manner.[21]

To address these factors, EPA management needs to make a concerted effort to focus on the logic of program design and ensure that the design includes controls so that managers can measure, evaluate, and demonstrate results for the resources used. Designing programs with clear and measurable results allows for transparency of, and accountability for, program performance. Program design and the strategic planning process should include defining measures as well as ensuring the appropriate agreements, funding, processes, and systems are considered to obtain the necessary information. 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.[22]

[21] *EPA's Progress in Using the Government Performance and Results Act to Manage for Results*, EPA OIG Report No. 2001-B-000001, June 13, 2001

[22] *Using the Program Assessment Rating Tool as a Management Control Process*, EPA OIG Report No. 2007-P-00033, September 12, 2007

## Water and Wastewater Infrastructure

Approximately 160,000 public drinking water systems provide the Nation with drinking water, while 16,000 sewage treatment plants treat and dispose of wastewater.[23] Under the Clean Water Act and Safe Drinking Water Act, water and wastewater facilities are responsible for treating water to specified levels. EPA is responsible for administering these laws and has a role in assisting facilities to meet their treatment requirements.

According to EPA, approximately 240,000 water main breaks and 75,000 sewer overflows occur each year, resulting in threats to public health across the country.[24] Some of the Nation's water infrastructure systems have components over 100 years old. As an example of the magnitude of the costs, a single city, the District of Columbia, has estimated that it will need to expend $3.6 billion to meet various requirements of the Clean Water Act.[25] Nationally, the cost will be extremely large. EPA has estimated that approximately $1 trillion dollars will be needed to pay for water and wastewater infrastructure over the next 20 years.[26] EPA also estimates that utilities are planning to spend only about half that amount over that same time. The remaining $500 billion has been termed the "water and wastewater infrastructure gap." The gap represents infrastructure failures that could increase risks to public health and the environment, as well as damage the national economy.

America's water and wastewater assets are critical to the country's public health, economy, and environment. Meeting standards requires regular investment for treatment plants and distribution systems. Water and wastewater facilities have made considerable capital expenditures. Local governments spend more on water infrastructure than they do on everything else except education.[27] However many drinking water and wastewater systems across the country are failing to keep up with repairs and new construction required to maintain compliance with federal water standards. Many systems still need to build new facilities and distribution systems, and repair and replace aging infrastructure. Further, increasingly stringent standards could compel systems to make even more extensive capital improvements. For example, many wastewater treatment plants are beginning to install costly nutrient removal technologies. Drinking water facilities will also need to meet new standards. In 2006, EPA issued three new rules[28] and made substantial revisions to the existing Lead and Copper Rule. These rules promise safer drinking water and cleaner recreational waters. Implementation will increase the cost through upgrades to meet new requirements, and so the infrastructure gap could continue to grow in size.

Presently, the Federal Government does not have a national approach to bridging the water and wastewater infrastructure gap. EPA's Clean Water and Drinking Water State Revolving Funds

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[23] http://www.epa.gov/ogwdw/sdwa/basicinformation.html and http://www1.eere.energy.gov/femp/pdfs/bamf_wastewater.pdf

[24] http://www.epa.gov/nrmrl/pubs/600f07015/600f07015.pdf

[25] http://archive.nacwa.org/getfile.cfm?fn=2007cso-a.russell.ppt.

[26] http://www.epa.gov/OGWDW/gapreport.pdf, http://www.epa.gov/owm/mtb/cwns/index.htm and http://www.epa.gov/safewater/needssurvey/index.html

[27] http://usmayors.org/urbanwater/07expenditures.pdf

[28] The three new rules were: Long Term 2 Enhanced Surface Water Treatment Rule (January 2006), Stage 2 Disinfection Byproducts Rule (January 2006), and Final Ground Water Rule (November 2006)

received about $1.7 billion in federal capitalization grants in FY 2006.[29] The U.S. Department of Housing and Urban Development and U.S. Department of Agriculture also provided systems with grant and loan assistance of about $2 billion in FY 2006.[30] The programs are not part of a comprehensive investment strategy to address water infrastructure needs; they reflect each individual agency's mission and congressional direction. Additionally, the federal aid, as well as aid from State funding programs, is already considered in computing the size of the funding gap.

EPA also addresses the gap by advocating for its "Four Pillars of Sustainable Infrastructure."[31] One pillar is "full cost pricing." Reviews have shown that many local users resist full cost pricing. For example, Pennsylvania is being sued by a group of localities over more stringent permit limits required to meet Chesapeake Bay water quality standards.[32] The localities consider the required investment to meet Chesapeake Bay water quality standards an "unfunded mandate" pushed onto local rate payers. EPA supplements its "full-cost pricing" advocacy with programs organized around the remaining three pillars: "Effective Management," "Water Efficiency," and "Watershed Approaches." In short, infrastructure funds need to be used effectively. The Office of Water's Better Management Website, for instance, contains several links to information geared at improving management practices within the water sector. EPA has also established a "National Alliance for Water Efficiency."[33] Other programs, such as EPA's advocacy for "green infrastructure" to reduce storm runoff, contribute to reducing future infrastructure needs.[34]

EPA's current approach, based on providing a relatively small amount of funding to State revolving funds and operating programs such as those under the "Four Pillars of Sustainable Infrastructure," is helpful. Other federal agencies contribute as well. However, this approach does not represent a coherent national strategy for resolving the problem of aging and deteriorating infrastructure. A comprehensive approach would realistically assess the investment requirements, and work with States and local governments to organize resources to meet needs. It would also alert the public and Congress of the unfunded liabilities and risks. While EPA has responsibility for administering the Clean Water Act and the Safe Drinking Water Act, EPA does not have resources or authority to address this gap by itself. EPA needs to ensure there is a comprehensive federal understanding of the risks to public health, the environment, and the economy if this critical resource gap remains unresolved. EPA should also take the lead in organizing a coherent federal strategy within the limits of its statutory authorities and responsibilities.

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[29] http://www.epa.gov/safewater/dwsrf/allotments/funding_dwsrf_allotments-2006.html and http://www.epa.gov/owm/cwfinance/cwsrf/cwnims/pdf/capfedst.pdf

[30] Water and Environmental Programs, Annual Activity Report, Fiscal Year 2006, USDA Rural Development, p. 6. http://www.hud.gov/offices/cpd/communitydevelopment/budget/disbursementreports/profiles/National_Expenditure_FY07.xls

[31] http://www.epa.gov/waterinfrastructure.

[32] *"Bill for upgrades at PA water plants creates sticker shock,"* http://www.bayjournal.com/article.cfm?article=3281

[33] www.epa.gov/oig/reports/2008/20080331-08-P-0120.pdf, p. 11.

[34] http://www.epa.gov/water/speeches/9-19-07_Water_Infrastructure.pdf, p. 10.

## Meeting Homeland Security Requirements

EPA has faced unprecedented challenges in responding to incidents of national significance including the World Trade Center and Pentagon terrorist attacks, and Hurricanes Katrina and Rita. These events elevated the Nation's expectations of EPA's emergency response role. Over the last several years these expectations have formally expanded EPA's traditional emergency response function. The 2004 National Response Plan, the 2008 National Response Framework, and multiple Homeland Security Presidential Directives[35] have established new federal requirements for EPA. The National Response Framework and several Homeland Security Presidential Directives direct EPA to support, coordinate, or lead responses to incidents of national significance, to include certain types of terrorist attacks or natural disaster events. EPA established its first Homeland Security office in 2003.

EPA needs to ensure it is ready to meet its Homeland Security requirements. The Agency must develop incident scenario plans that identify resources needed, planning assumptions, and accountable EPA entities. In addition, Agency plans need to be coordinated and communicated among all participating EPA entities as well as with outside federal, State, or local agencies that may be responding alongside EPA to nationally significant incidents. Reports issued by the OIG since 2003 have identified a number of concerns with EPA's Homeland Security-related planning efforts and actions.[36] Recent reports[37] indicate that EPA's plan for responding to incidents of national significance (1) has undocumented assumptions and unsupported resource requirements; (2) was developed with little internal or external coordination; (3) is missing key accountability designations or process descriptions for handling crisis communications; (4) has not met milestones for completing certain critical Homeland Security responsibilities; and (5) has

[35] See, http://www.dhs.gov/xprepresp/committees/editorial_0566.shtm

[36] *EPA Needs a Better Strategy to Measure Changes in the Security of the Nation's Water Infrastructure*, EPA OIG Report No. 2003-M-00016, September 11, 2003; *EPA Needs to Assess the Quality of Vulnerability Assessments Related to the Security of the Nation's Water Supply*, EPA OIG Report No. 2003-M-00013, September 24, 2003; *Decline In EPA Particulate Matter Methods Development Activities May Hamper Timely Achievement of Program Goals*, EPA OIG Report No. 2003-P-00016, September 30, 2003; *Survey Results on Information Used by Water Utilities to Conduct Vulnerability Assessments*, EPA OIG Report No. 2004-M-0001, January 20, 2004; *EPA's Homeland Security Role to Protect Air from Terrorist Threats Needs to be Better Defined*, EPA OIG Report No. 2004-M-000005, February 20, 2004; *EPA Needs to Better Manage Counter Terrorism/Emergency Response Equipment*, EPA OIG Report No. 2004-P-00011, March 29, 2004; *EPA's Final Water Security Research and Technical Support Action Plan May Be Strengthened Through Access to Vulnerability Assessments*, EPA OIG Report No. 2004-P-00023, July 1, 2004; *EPA Needs to Determine What Barriers Prevent Water Systems from Securing Known Supervisory Control and Data Acquisition (SCADA) Vulnerabilities*, EPA OIG Report No. 2005-P-00002, January 6, 2005; *EPA Needs to Fulfill Its Designated Responsibilities to Ensure Effective BioWatch Program*, EPA OIG Report No. 2005-P-00012, March 23, 2005; *EPA Needs to Better Implement Plan for Protecting Critical Infrastructure and Key Resources Used to Respond to Terrorist Attacks and Disasters*, EPA OIG Report No. 2006-P-00022, April 26, 2006; and *EPA Should Continue to Improve Its National Emergency Response Planning*, EPA OIG Report No. 08-P-0055, January 9, 2008.

[37] *Exit Memorandum for Preliminary Research of the Effectiveness of EPA's Emergency Response Activities*, EPA OIG Report No. 2006-M-000004, February 24, 2006; *EPA Needs to Better Implement Plan for Protecting Critical Infrastructure and Key Resources Used to Respond to Terrorist Attacks and Disasters*, EPA OIG Report No. 2006-P-00022, April 26, 2006; *EPA Should Continue to Improve Its National Emergency Response Planning*, EPA OIG Report No. 08-P-0055, January 9, 2008; and OIG Assignment No.2008-115 (ongoing).

not established accountable entities in EPA, with proper authority, to complete certain critical Homeland Security requirements.

Based on our concerns in this area, since 2004, we have identified Homeland Security as an EPA management challenge.[38] Prior to 2004, we identified our concerns in this area under the "protection of critical infrastructure" management challenge.[39] Since FY 2005, EPA has identified its efforts in support of Homeland Security as an Agency-level weakness[40] and is currently taking action to strengthen this area, such as by: (1) expanding Homeland Security planning coordination efforts with other federal, State, or local agencies; (2) recognizing a more complete range of issues and information that must be considered when developing response plans for incidents of national significance; (3) developing crisis communication plans and identifying responsible parties and roles for crisis communications; and (4) completing basic Homeland Security requirements.

In its *FY 2006 Performance and Accountability Report*, EPA said that it planned to close its Homeland Security management challenge by FY 2008.[41] In addition, in its *FY 2007 Performance and Accountability Report,* EPA said it planned to correct certain other concerns we raised by FY 2008.[42] Because many ongoing actions are not yet completed or 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 Homeland Security challenges.

The OIG plans to continue to monitor and report on EPA's progress in managing its Homeland Security challenges. Completion of the ongoing actions will help the Agency continue on a path toward better management of the significant challenges posed by its Homeland Security responsibilities. However, the challenge of planning and preparing for incidents of national significance, including the potential for multiple terrorist attacks, will not end with completing ongoing actions. While EPA has extensive experience in managing emergency responses, it is usually the lead or only responder. The lessons learned from past emergencies are ingrained in EPA's approach to planning for nationally significant events. The expansion of the Agency's current Homeland Security responsibilities will generally require different thinking about how to respond, coordinate with others, and communicate in nationally significant emergencies. In addition to the physical and resource challenges, EPA will also have to change how its managers think about emergency response. EPA will have to expand its emergency planning process to include more internal organizations, as well as external organizations. Previously uninvolved EPA components will have to accept responsibility for planning and coordinating support to emergency response. These internal and external lines of communication and coordination will have to be confirmed and tested to maintain a credible capability outside normal practice.

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[38] http://www.epa.gov/oig/reports/challenges.htm, 2004-2007 EPA Management Challenges.
[39] http://www.epa.gov/oig/reports/challenges.htm, 2001-2003 EPA Management Challenges.
[40] http://www.epa.gov/ocfo/par/2005par/par05key_mgmt_challenges.pdf, electronic p. 5; http://www.epa.gov/ocfo/par/2006par/par06mgmt_accomplishments_and_challenges.pdf, electronic p. 8; and http://www.epa.gov/ocfo/par/2007par/par07management_weaknesses.pdf, electronic p. 5.
[41] http://www.epa.gov/ocfo/par/2006par/par06mgmt_accomplishments_and_challenges.pdf, electronic p. 8.
[42] http://www.epa.gov/ocfo/par/2007par/par07management_weaknesses.pdf, electronic p. 5.

## Oversight of Delegations to States

EPA's oversight of State programs requires improvement. GAO[43] and OIG[44] have reported that EPA has made some progress in this area. However, there are a number of factors and practices that reduce the effectiveness of Agency oversight. Key among these are limitations in the availability, quality, and robustness of program implementation and effectiveness data, and limited Agency resources to independently obtain such data. Differences between State and federal policies, interpretations, and priorities make effective oversight a challenge.

EPA's mission is to protect human health and the environment. To accomplish its mission, EPA develops regulations and establishes programs that implement environmental laws. These programs may be delegated to State, local, and tribal agencies that request to take primacy of the program. Delegation, however, does not relieve EPA of its statutory and trust responsibilities for protecting human health and the environment. EPA performs oversight of State, local, and tribal programs in an effort to provide reasonable assurance that delegated programs are achieving their goals. In addition to regulatory programs, EPA sponsors voluntary partnerships and programs with more than 10,000 industries, businesses, nonprofit organizations, and State and local governments on more than 40 pollution prevention programs and energy conservation efforts. Dealing with partners requires different types of management approaches and controls than when dealing with parties that require oversight. EPA does not have the resources to effectively administer all its responsibilities directly. EPA relies heavily on local, State, and tribal agencies for compliance and enforcement and to obtain performance data. In the *2007 Performance and Accountability Report,* EPA states it delegated the responsibility for issuing permits and for monitoring and enforcing compliance to the States and tribes.[45]

A critical management challenge to EPA is oversight of its delegations to the States. Federal environmental statutes grant EPA a significant role in implementing the intent of the law, and also authorize a substantial role for States. Federal intent is to give all citizens an equal level of environmental protection. However, quality data is often lacking to ensure that the intent of the law is met. For example, EPA lacks the data necessary to assess the benefits of its air toxics standards, such as decreased incidence of cancer. Data on the program's effectiveness, such as changes in emissions, concentrations of air toxics in the (ambient) outdoor air, and data on compliance with air toxics standards, are limited and inconclusive.[46] Also, federal requirements establish consistency for businesses and within industries nationwide. State discretion adds flexibility to address specific circumstances and local issues. Joint implementation and enforcement leads to special challenges in interpretations, strategies, and priorities.

EPA has improved its oversight by implementing the State Review Framework. This framework is a consistent approach for overseeing programs. The framework can also identify other

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[43] *EPA-State Enforcement Partnership Has Improved, But EPA's Oversight Needs Further Improvement,* GAO -07-883, July 31, 2007

[44] *Despite Progress, EPA Needs to Improve Oversight of Wastewater Upgrades in the Chesapeake Bay Watershed*, EPA OIG Report No. 08-P-0049, January 8, 2008

[45] *US Environmental Protection Agency, Performance and Accountability Report Fiscal Year 2007 – Environmental Progress*, November 13, 2007

[46] *EPA Should Improve the Management of Its Air Toxics Program*, GAO-06-669, June 23, 2006

weaknesses and improvements that can be made. GAO reported that EPA had made substantial progress in improving priority setting and enforcement planning with the States. However, GAO concluded that EPA's oversight needed further enhancement. For example, State Review Framework reviews show that EPA has limited ability to determine whether States are performing timely, appropriate enforcement, and whether penalties are applied to environmental violators in a fair and consistent manner within and among the States.[47] OIG found that EPA did not exercise effective enforcement oversight of facilities with National Pollutant Discharge Elimination System (NPDES) permits in significant long-term noncompliance.[48] The situation was also exacerbated by a lack of complete and accurate records of NPDES compliance and enforcement actions.

In other reports, the OIG has consistently noted that EPA's oversight of State activities or data needs to be improved to make accurate assessments of performance and results. For example, EPA's oversight of State vehicle inspection and maintenance programs needed improvement.[49] These programs represent a key pollution control strategy in urban areas. They are also a prime example of why EPA involvement is critical to address pollution issues that are not bound by State lines. The OIG reported that EPA had not ensured that States were meeting program commitments. Overall, EPA did not have a reasonable assurance that emissions claimed by some inspection and maintenance programs had been achieved.

In our view, while EPA has improved its oversight of delegated programs, the issues are complex and changeable. To provide effective oversight, the Agency must address the limitations in the availability, quality, and robustness of program implementation and effectiveness data. Effective oversight of delegations to States is a continuous management challenge that requires an agile organization, accurate data, and consistent interpretations of policy.

[47] *EPA-State Enforcement Partnership Has Improved, But EPA's Oversight Needs Further Improvement*, GAO-07-883, July 31, 2007

[48] *Better Enforcement Oversight Needed for Major Facilities With Water Discharge Permits in Long-Term Significant Noncompliance*, EPA OIG Report No. 2007-P-00023, May 14, 2007

[49] *EPA's Oversight of the Vehicle Inspection and Maintenance Program Needs Improvement*, EPA OIG Report No. 2007-P-00001, October 5, 2006

## Chesapeake Bay Program

The Chesapeake Bay is North America's largest and most biologically diverse estuary. Improving water quality is the most critical element in the overall protection and restoration of the Chesapeake Bay and its tributaries, according to the Chesapeake Bay 2000 Agreement.[50] Yet after about 20 years of effort by federal, State, and local governments, the Bay waters remain degraded and the latest targeted cleanup goal will not be met. After a series of reports, the OIG has determined that while EPA could increase its use of some authorities and improve oversight, this is not nearly sufficient for achieving and sustaining water quality goals.[51] EPA quite simply does not have the resources, tools, or authorities to ensure that the Chesapeake Bay Program is successful. Changes in national farm policy, local land development decisions, and individual life styles could have huge impacts on the amount of pollution being discharged to the Bay.

Congress designated EPA's Chesapeake Bay Program Office (CBPO) with the responsibility to coordinate cleanup efforts with other federal agencies and State and local governments.[52] The CBPO was also given the responsibility to report to Congress on the progress in cleaning up the Bay. Congress provides a much higher level of funding to CBPO than it does for any other geographically-based program. The 2009 budget requests $29 million for CBPO.[53] With this money, the CBPO awards grants and offers various technical information and assistance. Congress' interest in the Bay is also exhibited in its proposed funding of projects in the Farm Bill.[54]

As the most mature watershed restoration program, successful approaches and solutions for organizing and managing cleanup will therefore be highly relevant to stakeholders in other watersheds throughout the nation. Success or failure will resonate in communities across the country. The Bay's problems are national problems. The CBPO can be the prototype for developing ways to address the water quality impairments of other watersheds. Learning from the Bay's successes and failures will be critical to watersheds across the country. The most important water quality issues (nutrient overloading, habitat loss, and decline in fish populations) faced by the Bay are the same issues the other 28 estuaries in EPA's National Estuary Program face.[55]

EPA's CBPO has provided scientific information used by the partnership in setting allocations, revising water quality standards, and establishing stricter wastewater treatment discharge limits. Despite these important accomplishments, the Bay partners face significant obstacles in

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[50] *Chesapeake 2000*, p. 1, http://www.chesapeakebay.net/pubs/chesapeake2000agreement.pdf

[51] *Saving the Chesapeake Bay Watershed Requires Better Coordination of Environmental and Agricultural Resources*, EPA OIG Report No. 2007-P-00004, November 20, 2006; *EPA Relying on Existing Clean Air Act Regulations to Reduce Atmospheric Deposition to the Chesapeake Bay and its Watershed*, EPA OIG Report No. 2007-P-00009, February 28, 2007; *Development Growth Outpacing Progress in Watershed Efforts to Restore the Chesapeake Bay*, EPA OIG Report No. 2007-P-00031, September 10, 2007; and *Despite Progress, EPA Needs to Improve Oversight of Wastewater Upgrades in the Chesapeake Bay Watershed*, EPA OIG Report No. 08-P-0049, January 8, 2008.

[52] Section 117 of the Clean Water Act.

[53] *FY 2009 EPA Budget in Brief*, page D-4, http://www.epa.gov/ocfo/budget/2009/Final%2009%20BIB%20.pdf

[54] *USDA 2007 Farm Bill Proposals*, http://www.usda.gov/documents/07finalfbp.pdf

[55] *Challenges Facing Our Estuaries, Key Management Issues*, http://www.epa.gov/owow/estuaries/about3.htm.

achieving the Bay's water quality goals. It is now widely acknowledged that the nutrient and sediment reductions that are required will not be met by 2010 as planned. EPA did not meet its strategic plan goals for the Chesapeake Bay in 2005 and 2006.[56] At the current rate of progress, it will take decades for the Bay partners to reach their reduction goals, and that is without factoring in future challenges.

The Bay partners face the following key challenges: (1) managing land development, (2) increasing implementation of agricultural conservation practices, (3) monitoring and expediting the installation of nutrient removal technology at wastewater treatment plants, (4) seeking greater reductions in air emissions, and (5) identifying consistent and sustained funding sources to support tributary strategy implementation. Few of these steps can be taken by EPA; its "partners" will need to implement practices to reduce loads. However, EPA will need to institute management controls to ensure that the promised reductions are realistic, and those that are claimed are actually being achieved.

Actions necessary to address the above challenges will not be easily implemented even if such practices are described as cost-effective. For example, it will be difficult to convince enough agricultural producers that conservation practices will not adversely affect productivity. In many cases, EPA has no clear authority to control the major sources of pollution, such as from land development. Other practices are controversial because they place restrictions on the lives of the residents of the Bay watershed. Controls may result in property owners near the coast not being able to construct additions to their homes or develop vacant land. However, to address these challenges, EPA and its partners will need to make major program improvements. In the absence of significant steps from government, financial incentives, or other mechanisms of influence, the enormous reductions required will not be forthcoming.

The CBPO has begun responding to the recommendations contained in reports by the EPA OIG and GAO by improving program management and strategic planning. While these efforts are likely to improve overall management, they are unlikely to result in the accelerated progress needed to achieve the reduction goals. It will still be up to local governments to determine how they will develop lands and to other federal agencies on how they will direct agricultural production or transportation. It is the Bay community's responsibility to take action to ensure that Bay-wide commitments are met, and that water quality goals are achieved and maintained. It is EPA's responsibility to monitor and assess progress. The Bay partners need to commit to implementation plans with realistic timeframes and generate adequate financial support. EPA should then use its reporting responsibilities to advise Congress and the Chesapeake Bay community on the partners' progress in meeting these commitments, and identifying any funding shortfalls and other impediments that will affect progress.

[56] *Fiscal Year 2006 Performance and Accountability Report, U.S. Environmental Protection Agency*, p. 176 http://www.epa.gov/ocfo/par/2006par/index.htm

## Voluntary Programs - Update

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).[57] In 2002, EPA released an innovation strategy that described EPA activities and priority issues.[58]

Voluntary programs have proliferated in recent years and now address a wide variety of environmental challenges.[59] 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.[60] In response, the Agency committed to a series of steps intended to establish minimum design standards, improve management, and develop multi-year internal program evaluation plans for voluntary programs as part of the Agency's strategic and annual planning, budgeting, and accountability systems.

Evaluations of individual voluntary programs continue to uncover design, data, and implementation concerns. For example, we found shortcomings in EPA's "gold standard" Performance Track voluntary program with quality controls, performance measurement, and strategic planning.[61] In response, EPA committed to develop better goals and measures, improve monitoring, explore alternative performance data collection methods, and develop a comprehensive strategic plan. Our evaluation of EPA's largest voluntary program, ENERGY STAR, found that EPA does not have reasonable assurance that its self-certification process is effective. EPA relies on some alternative verification mechanisms, but lacks any quality assurance or review of reported results. The Agency's verification testing lacks a clear documented methodology governing products selected for verification tests and does not test for statistically valid results. Consequently, product efficiency and energy savings reported by

[57] EPA *Everyday Choices: Opportunities for Environmental Stewardship*, December 2005.
[58] EPA *Innovating for Better Environmental Results: A Strategy to Guide the Next Generation of Innovation at EPA*, April 2002.
[59] *Partnership Programs May Expand EPA's Influence*, EPA OIG Report No. 2007-P-00003, November 14, 2006
[60] *Voluntary Programs Could Benefit from Internal Policy Controls and a Systematic Management Approach*, EPA OIG Report No. 2007-P-00041, September 25, 2007
[61] *Performance Track Could Improve Program Design and Management to Ensure Value*, EPA OIG Report No. 2007-P-00013, March 29, 2007

manufacturers are, for the most part, unverified by EPA review.[62] In response, EPA committed to establish a Quality Assurance Program integrating the various elements of its compliance monitoring system for ENERGY STAR-qualified products.

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 that 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. However, as the EPA OIG continues to evaluate the efficiency and effectiveness of voluntary programs, such as ENERGY STAR, Indoor Radon, and those designed to reduce greenhouse gas emissions, it is increasingly a concern that the potential benefits of voluntary programs are not commensurate with the size of the environmental and human health problems they are intended to solve.

[62] *ENERGY STAR Program Can Strengthen Controls Protecting the Integrity of the Label*, EPA OIG Report No. 2007-P-00028, August 1, 2007.