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

JUL - 1 2013

THE INSPECTOR GENERAL

MEMORANDUM

SUBJECT: The EPA's Fiscal Year 2013 Management Challenges

FROM: Arthur A. Elkins Jr.

TO: Bob Perciasepe, Acting Administrator and Deputy Administrator

We are pleased to provide you with a list of areas the Office of Inspector General considers as key management challenges confronting the U.S. Environmental Protection Agency. According to the Government Performance and Results Act Modernization Act of 2010, major management challenges are programs or management functions, within or across agencies, that have greater vulnerability to waste, fraud, abuse, and mismanagement, and a failure to perform well could seriously affect the ability of an agency or the federal government to achieve its mission or goals.

The Reports Consolidation Act of 2000 requires our office to report what we consider the most serious management and performance challenges facing the agency. Given this requirement, our list includes management challenges and significant performance issues facing the EPA. We used audit, evaluation and investigative work, as well as additional analysis of agency operations, to identify challenges and weaknesses. Additional challenges and weaknesses may exist in areas that we have not yet reviewed, and other significant findings could result from additional work. We provide detailed summaries of each challenge in the attachment.

While the EPA has made progress, and we recognize that budgetary pressures are considerable, we repeated the five management challenges reported from last year (although we changed the title of the challenge on cyber security). We welcome the opportunity to discuss our list of challenges and any comments you might have.

Attachment

Oversight of Delegations to States

The U.S. Environmental Protection Agency's oversight of state programs remains a key management challenge. The EPA has made strides to improve its oversight of states but has not completed its actions.

To accomplish its mission to protect human health and the environment, the EPA develops regulations and establishes programs that implement environmental laws. Many federal statutes also establish state regulatory programs that give states the opportunity to enact and enforce laws when minimum federal standards and regulatory objectives are met. The EPA may authorize state, local or tribal governments to implement environmental laws when they request authorization and the EPA deems that government capable of operating the program consistent with federal standards. The EPA relies heavily on authorized state and tribal agencies to obtain performance data and implement compliance and enforcement programs. These EPA partners perform a critical role in supporting the EPA's administration of key environmental laws.

The EPA performs oversight of state, local and tribal programs to provide reasonable assurance that they achieve national goals. However, state delegation does not exempt the EPA from its statutory and trust responsibilities to protect human health and the environment. Federal intent is to ensure national minimum-level environmental protection standards. In addition, federal requirements establish consistency for businesses and within industries nationwide. States' discretion adds flexibility to address specific circumstances and local issues, but joint implementation and enforcement leads to special challenges in interpretations, strategies and priorities. Budget limitations faced by many states impose an added pressure on EPA to maintain oversight of state environmental management.

The uneven quality of the EPA's oversight of state programs has been a concern for many years. The U.S. Government Accountability Office brought renewed attention to this issue in 2007 when it reported that while the EPA has made substantial progress in improving priority setting and enforcement planning with states, its oversight needed further enhancement. In response, the EPA implemented the "State Review Framework" to provide a consistent approach for overseeing programs and identifying weaknesses and areas for improvement. However, in fiscal year 2012 we reported that the EPA had not implemented the framework in a consistent manner.[1] Past reviews of this framework also indicated that the EPA had limited ability to determine whether states perform appropriate and timely enforcement and whether states apply violator penalties in a fair and consistent manner. In response to these and other findings, the EPA made changes to the State Review Framework and initiated a Clean Water Act Action Plan aimed at strengthening agency oversight of state water quality compliance and enforcement.

We issued a number of other reports on state oversight in recent years. Those reports pointed to the EPA's inadequate and inconsistent oversight of a variety of state activities—from state revolving fund projects to state enforcement of major environmental laws. Oversight of state activities requires that the EPA establish consistent national baselines that state programs must meet, and monitor state programs to determine whether they meet federal standards. Our work

[1] EPA OIG, *EPA Must Improve Oversight of State Enforcement,* Report No. 12-P-0113, January 30, 2012.

identified the absence of national baselines and a lack of consistent and robust state oversight of multiple programs within the Clean Water Act, Clean Air Act, and Resource Conservation and Recovery Act. We also found that unclear and outdated agreements caused confusion between the EPA and states. For example:

- The EPA's oversight of states did not ensure that requirements of the American Recovery and Reinvestment Act of 2009 were met on Clean Water State Revolving Fund projects. We found that the Recovery Act inspection checklist did not include enough detailed questions to facilitate the EPA oversight of state programs. Further, the Office of Water was not conducting and documenting reviews of state programs in a timely manner and did not use the resulting reports to make national program decisions. Management did not make completion of the review reports a priority and did not use all of the Recovery Act funding Congress allocated for oversight. As a result, the EPA oversight process could not ensure that states complied with Recovery Act program requirements.[2]

- The EPA takes a variety of approaches to correcting underperforming state programs. These include making recommendations under the State Review Framework process, overfiling on states (i.e., when a state fails to enforce a program, EPA can enforce a provision for which a particular state has authorization), and taking independent actions when states choose not to act. We found that the EPA does not maximize its resources so that it can take the most stringent step—revoking state authorization—when a state is underperforming. The EPA primarily identifies underperforming state programs through the State Review Framework process. The EPA's criteria for state performance varied from region to region and state to state, depending on factors like state resources and environmental priorities. This means that citizens in different states cannot expect the same baseline of protection from pollution and human health risks. By establishing stronger organizational structures, the EPA can directly implement a national enforcement strategy that ensures all citizens have, and industries adhere to, a baseline level of environmental protection. The EPA could make more effective use of its resources by directing a single national workforce instead of 10 inconsistent regional enforcement programs.[3]

- Region 4 gave Georgia's concentrated animal feeding operation program a positive assessment. However, our review identified concentrated animal feeding operations that were operating without National Pollutant Discharge Elimination System permits or Nutrient Management Plans. We also noted that inspection reports were missing required components and the state was not assessing compliance with permit conditions. We recommended implementing controls to require enforcement data tracking between EPA and the state, assuring concentrated animal feeding operation inspections are complete, and taking timely and appropriate enforcement actions.[4]

---

[2] EPA OIG, *EPA and States Should Strengthen Oversight of Clean Water State Revolving Fund Recovery Act Projects*, Report No. 11-R-0519, August 24, 2011.
[3] EPA OIG, *EPA Must Improve Oversight of State Enforcement*, Report No. 12-P-0113, January 30, 2012.
[4] EPA OIG, *Region 4 Should Strengthen Oversight of Georgia's Concentrated Animal Feeding Operation Program*, Report No. 11-P-0274, June 23, 2011.

- Region 4 has not adequately implemented management controls to assure that North Carolina National Pollutant Discharge Elimination System permits comply with the Clean Water Act and applicable federal regulations concerning thermal discharges. Region 4 determined that the thermal limits for four of the six facilities reviewed were renewed based on insufficient documentation. Most of the draft permits we reviewed were missing critical information needed to allow the EPA and the public an opportunity for review and comment as required. Public notices for five draft permits did not contain the required statements describing the proposed thermal variance.[5]

The EPA agreed when we identified oversight of delegations to states as a 2012 management challenge. In July 2012, the EPA convened an agencywide workgroup of staff responsible for administering major agency programs in order to plan and implement an agencywide effort to collect available information to define, describe and assess the EPA's processes, practices and tools for overseeing state delegations and authorizations. This workgroup is reviewing key components of the EPA/state partnership such as the EPA-State Memoranda of Agreement, permit and program reviews, technical assistance to states, petitions to withdraw state programs, and variability of regional oversight. It is also planning to analyze key similarities and differences among the major permitting programs to improve communication between states and the EPA. Findings and options for improving state oversight are expected to be reported to the Deputy Administrator by September 2013.

In addition, the EPA agreed to implement recommendations contained in our past reports. For example, in response to our January 2012 report on state oversight, the EPA agreed to:

- Review its public website to identify current compliance and enforcement documents that affect state oversight and improve the presentation of these documents on its website.
- Revise many of the policies and guidance that direct the national enforcement program and refine the State Review Framework metrics.
- Develop an escalation policy to address state performance issues including exploring mechanisms, such as utilizing state grant funds to directly implement programs if appropriate.
- Develop and make publicly available state performance dashboards for the Clean Water Act, Clean Air Act, and Resource Conservation and Recovery Act, to track state enforcement activities from year to year (which the EPA completed and demonstrated to our office).

The workgroup and the EPA's positive responses to the recommendations contained in our past reports are promising steps that should improve the EPA's relationship with its state partners. We will continue to monitor the EPA's progress in addressing this management challenge.

[5] EPA OIG, *Oversight of North Carolina's Renewals of Thermal Variances*, Report No. 11-P-0221, May 9, 2011.

Safe Reuse of Contaminated Sites

The EPA is increasingly emphasizing the reuse of contaminated or once contaminated properties. The EPA Fiscal Years 2011–2015 Strategic Plan announced a shift in the definition of success at a Superfund site from "construction complete" to "ready for anticipated use."[6] The EPA's FY 2013 budget states that it will continue to place emphasis on promoting site reuse in affected communities,[7] and agency guidance states that revitalizing communities and ensuring the long-term protection of human health and the environment remains a high priority for the EPA at Superfund sites.[8] Currently, the agency is actively encouraging communities, developers, industry, state and local governments, and anyone else interested in reusing contaminated sites for renewable energy development (e.g., wind, solar, biomass) facilities.[9]

The EPA has successfully turned some actual or perceived problem sites into properties that reinvigorate communities and create jobs.[10] Contaminated properties become viable again as retail stores, public recreation areas, housing complexes, sports stadiums and commercial office space. Recycling and reusing contaminated property can produce measured economic benefits, provide environmental benefits that result from preserving undeveloped lands, and improve quality of life for communities. While the EPA's recycle and reuse goals are notable and may have made positive contributions in difficult economic times, the EPA's duty is to ensure that contaminated sites are safe for humans and the environment. The EPA faces significant and increasing challenges in this area due to: (1) the common practice of not removing all contamination sources from hazardous sites; (2) a regulatory structure that places key responsibilities for monitoring and enforcing the long-term safety of contaminated sites on non-EPA parties that may lack necessary resources, information and skill; (3) varying risks as site conditions change over time; and (4) weaknesses in EPA's oversight of long-term site safety.

Many contaminated sites, such as Superfund sites, must be monitored in the long term (i.e., 30 years or more) because known contamination is often not fully removed or remediated, and controls that prevent prohibited activities at sites must be maintained and enforced. New controls or monitoring may be required if previously undetected or new contaminants emerge,[11] which can be a direct result of site changes brought about by reuse. Ineffective or missing long-term safety controls at reused contaminated sites can pose significant risks to human health and the environment. The New York Department of Environmental Conservation released a report listing hundreds of "old" Superfund, brownfields and other cleanup cases that were reopened to investigate potential new threats from vapor intrusion.[12] Improvements in analytic techniques and knowledge gained from site investigations have increased awareness of soil vapor as a medium of concern and of the potential for human exposure from the soil vapor intrusion

---

[6] EPA, *FY 2011–2015 Strategic Plan*, p. 38.
[7] EPA, *FY 2013 EPA Budget in Brief.*
[8] EPA, *Office of Solid Waste and Emergency Response, FY 2013 National Program Manager's Guidance*, April 27, 2012, Publication Number 530R12001, p. 20.
[9] EPA website, "RE-Powering America's Land."
[10] EPA website, "Superfund Redevelopment."
[11] EPA, *Brownfields Technology Primer. Vapor Intrusion Considerations for Redevelopment*, EPA 542-R-08001, March 2008.
[12] New York State Department of Environmental Conservation, *Status of Vapor Intrusion Evaluations at Legacy Sites*, February 11, 2009.

pathway.[13] However, the EPA has yet to finalize guidance on assessing or addressing potential risks from vapor intrusion and does not have a current estimate of when this will be completed,[14] although the EPA has engaged stakeholders and considered public comments received in 2011 and 2012 as it works to issue final guidance.[15]

The EPA has acknowledged challenges to ensuring the long-term safety of contaminated sites. In 2005, the agency released a report that examined a range of long-term stewardship issues[16] and challenges it faced, as well as the role of non-EPA parties (e.g., states, tribes and other federal agencies) in ensuring long-term safety of contaminated sites.[17] EPA identified five categories of challenges: (1) understanding roles and responsibilities; (2) implementing and enforcing institutional controls;[18] (3) implementing, enforcing and monitoring engineering controls;[19] (4) estimating long-term stewardship costs and obtaining funding and resources; and (5) managing and communicating information to prevent breaches of controls and ensure consistent information in databases. The report made a number of recommendations that generally rely on partnerships and relationships to share, communicate and exchange necessary information on roles, responsibilities and costs associated with long-term stewardship responsibilities. The report encouraged non-EPA parties to adhere to legal provisions for implementing institutional controls where applicable (e.g., Uniform Environmental Covenants Act).[20]

In response to a GAO report on institutional controls, the EPA has also taken some steps to better manage the implementation of institutional controls at Superfund sites.[21] However, there are many sites where the status of institutional controls is not available.[22] In 2010, the EPA completed an internal evaluation to determine whether the required and necessary institutional controls were in place at national priority Superfund sites.[23] This review disclosed that controls

---

[13] New York State Department of Environmental Conservation, *Strategy for Evaluating Soil Vapor Intrusion at Remedial Sites in New York*, DER-13, October 18, 2006.

[14] EPA OIG, *Lack of Final Guidance on Vapor Intrusion Impedes Efforts to Address Indoor Air Risks*, Report No. 10-P-0042, December 14, 2009.

[15] EPA Vapor Intrusion website at http://www.epa.gov/oswer/vaporintrusion/.

[16] EPA generally characterizes long-term stewardship activities as activities that ensure (1) ongoing protection of human health and the environment, (2) the integrity of remedial or corrective actions so they continue to operate properly, and (3) the ability of people to reuse sites in a safe and protective manner.

[17] EPA, *Long-Term Stewardship: Ensuring Environmental Site Cleanups Remain Protective Over Time: Challenges and Opportunities Facing EPA's Cleanup Programs*, EPA 500-R-05-001, September 2005.

[18] Institutional controls are legal or administrative controls intended to minimize the potential for human exposure to contamination by limiting land or resource use. A local government is often the only entity that has legal authority to implement certain types of institutional controls (e.g., zoning restrictions).

[19] Engineering controls are the engineered physical barriers or structures designed to monitor and prevent or limit exposure to the contamination.

[20] The Uniform Environmental Covenants Act confirms the validity of environmental covenants (i.e., institutional controls/land use controls) by ensuring that land use restrictions, mandated environmental monitoring requirements, and a wide range of common engineering controls designed to control the potential environmental risk of residual contamination will be reflected in land records and effectively enforced over time. Currently, about one-half of U.S. states have passed a Uniform Environmental Covenants Act. The Uniform Environmental Covenants Act was drafted by the National Conference of Commissioners on Uniform State Laws in August 2003.

[21] GAO, *Hazardous Waste Sites: Improved Effectiveness of Controls at Sites Could Better Protect the Public*, GAO 05-163, January 28, 2005. See also EPA's website "Institutional Controls."

[22] EPA website, "Published Institutional Controls."

[23] EPA, *Summary of Program Evaluations for FY 2010 Annual Performance Report*.

to protect human health were not in place at a number of sites reviewed. The EPA made recommendations to improve the implementation of these controls to protect human health at sites where risks remained. In December 2012, the EPA issued final guidance, *Institutional Controls: A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites*.[24] The guidance is a noteworthy improvement in the agency's management of this important issue by recognizing the critical role of non-EPA parties in ensuring effective institutional controls.[25] The EPA has also issued final guidance with recommended contents for such Institutional Control Implementation and Assurance Plans in its December 2012 guidance, *Institutional Controls: A Guide to Preparing Institutional Control Implementation and Assurance Plans at Contaminated Sites*.[26]

Our work has identified additional and ongoing challenges that EPA faces in ensuring effective long-term monitoring or stewardship of contaminated sites. We found that some states were not financially prepared to take over their long-term monitoring and maintenance responsibilities for Superfund cleanups.[27] In 2010, Michigan's Department of Environmental Quality believed it would run out of money for its hazardous waste cleanup program.[28] We have reported on state failures to enforce cleanup agreements,[29] the EPA's failure to follow Superfund site deletion guidance[30] and Five-Year Review procedures,[31] and the EPA's lack of systems to determine whether a site cleanup is noncompliant.[32] In our February 2011 report,[33] we found that the EPA relies on the self-certification of a third-party environmental professional to determine whether required environmental due diligence bas been performed at Brownfields sites funded by the EPA grants. For tbe environmental due diligence investigations we reviewed, environmental professional certifications failed to meet federal requirements and therefore failed to assure tbat a proper environmental investigation occurred. The EPA also conducts no oversight of the requirement to meet "continuing obligations" at Brownfields properties funded by the EPA. These obligations include land use controls and institutional controls designed to prevent

---

[24] OSWER 9355.0-89 EPA-540-R-09-001 December 2012.

[25] This guidance states that "[w]hen ICs [Institutional Controls] are to be employed as a component of a site response, site managers and site attorneys should carry out an analysis to determine if the state, local, and tribal governments or other stakeholders (e.g., responsible parties) have the ability and capacity to implement, maintain, and enforce the ICs." It also states that "[a] good way to ensure effective implementation of ICs is to develop an ICIAP [Institutional Control Implementation and Assurance Plan] that documents responsibilities over the full life cycle of each IC, and include this plan, or a reference to it, in the final decision documents."

[26] EPA, OSWER 9200.0-77 EPA-540-R-09-002 December 2012.

[27] EPA OIG, *Some States Cannot Address Assessment Needs and Face Limitations in Meeting Future Superfund Cleanup Requirements*, Report No. 2004-P-00027, September 1, 2004.

[28] *The Detroit News*, "Michigan Out of Cash to Clean Up Toxic Sites," March 4, 2010.

[29] EPA OIG, *Improved Controls Would Reduce Superfund Backlogs*, Report No. 08-P-0169, June 2, 2008.

[30] EPA OIG, *EPA Decisions to Delete Superfund Sites Should Undergo Quality Assurance Review*, Report No. 08-P-0235, August 20, 2008.

[31] EPA OIG, *EPA Has Improved Five-Year Review Process for Superfund Remedies, But Further Steps Needed*, Report No. 2007-P-00006, December 5, 2006; EPA OIG, *EPA's Safety Determination for Delatte Metals Superfund Site Was Unsupported*, Report No. 09-P-0029, November 19, 2008.

[32] EPA OIG, *EPA Needs to Track Compliance with Superfund Cleanup Requirements*, Report No. 08-P-0141, April 28, 2008.

[33] EPA OIG, *EPA Must Implement Controls to Ensure Proper Investigations Are Conducted at Brownfields Sites*, Report No. 11-P-0107, February 14, 2011.

unacceptable use of contaminated properties.[34] Weaknesses or lapses in meeting environmental due diligence or continuing obligations requirements can result in undetected or undisclosed contamination and property reuse that may pose unacceptable risk to humans. In response to our February 2011 report, the EPA agreed to develop outreach materials and conduct training for Brownfields grantees and regional staff to increase compliance with federal requirements for environmental due diligence investigations. The EPA reported it completed these activities during FY 2012.

Our January 2010 report found new contamination at a delisted Superfund site in Delaware where the EPA conducted informal and undocumented oversight of the site reuse plans.[35] The current site owner had nearly finalized plans for reusing the site for public recreation but in a manner inconsistent with the site cleanup plan. The EPA had not kept current with the current owner's site reuse plans. In addition, the EPA did not issue a "Ready for Reuse" determination for this site because it believed it was not necessary. A Ready for Reuse determination could potentially address some of the internal challenges to ensuring safe reuse of contaminated sites. However, there is no requirement to complete Ready for Reuse determinations, and they have been treated as discretionary. Nonetheless, the EPA has held up these determinations as providing the necessary "limitations that need to be followed to ensure [site] protectiveness." A Ready for Reuse determination was not issued for the site reviewed in our January 2010 report because site managers believed such a determination was only needed to aid the real estate market. At another Superfund site, we also found that the EPA did not take action to address a 6-year gap in environmental sampling that the state should have conducted.[36] This type of oversight weakness can result in a failure to detect conditions that indicate a cleanup remedy does not protect human health and the environment.

In August 2011, we reported the results of a review of hyperspectral imaging data taken of Superfund sites that had been remediated and deleted from the National Priorities List. This review identified conditions at two sites that warranted additional consideration by EPA. One of these sites, a former landfill, had expanded since EPA's last review. At one former industrial site, the current landowner was building a residence although levels of contamination for some metals exceeded residential risk-based screening levels, and the site contained buried drums and other debris.

The EPA's management of the long-term oversight and monitoring requirements for the safe reuse of contaminated sites has lagged behind its marketing of site reuse opportunities and showcasing of successes. Only in recent years has the EPA focused attention on the long-term stewardship aspects of contaminated sites across its cleanup programs. This gap could increase substantially as the EPA continues to heavily promote the reuse of contaminated sites and create new incentives without investing in tools needed to ensure the safe, long-term use of these sites. Many Superfund sites are now moving to the long-term monitoring phase, with more sites

---

[34] EPA, *Brownfields Fact Sheet, EPA Brownfields Grants CERCLA Liability and All Appropriate Inquiries*, EPA 560-F-09-026, April 2009.
[35] EPA OIG, *Changes in Conditions at Wildcat Landfill Superfund Site in Delaware Call for Increased EPA Oversight*, Report No. 10-P-0055, January 27, 2010.
[36] EPA OIG, *EPA Should Improve Oversight of Long-term Monitoring at Bruin Lagoon Superfund Site in Pennsylvania*, Report No. 10-P-0217, September 8, 2010.

expected to do so in the future.[37] The EPA's December 2008 report on future Superfund workload needs states that the "post-construction" workload will increase by 89 percent over the current full-time equivalent distribution.[38] The EPA will continually need to assess challenges it faces, as well as challenges among the diverse group of non-EPA parties it must work with, to ensure that sites are safely reused. In its assessments, the EPA should consider new or expanded authorities and regulations, new organizations, measures and goals, new methods of sharing information, and dedicated funding and resources for long-term stewardship activities.

In 2009, the EPA agreed with this challenge.[39] In its 2010,[40] 2011,[41] and 2012[42] responses to this challenge, the EPA stated that it actively promotes several tools to ensure appropriate and safe reuse of sites and that it will continue to explore new tools and approaches to sharing risk information to ensure that sites remain safe in their future uses. The EPA has stated that its Superfund Five-Year Review process addresses the vast majority of "emerging contaminant" situations observed at Superfund National Priorities List sites and conveyed that the Five-Year Review process worked well. Specific "tools" the EPA has said it promotes to ensure appropriate and safe reuse of sites are: (1) Ready for Reuse determinations, (2) comfort and status letters, (3) prospective purchaser inquiry calls, (4) EPA-funded reuse planning offers, and (5) site reuse fact sheets.[43] In 2011, the EPA identified these tools as things they can offer to ensure that reuse is appropriate and will enhance long-term protectiveness.[44] In 2012, these tools, except for prospective purchaser inquiry calls, were also identified as things they can use to ensure that reuse is appropriate and will enhance long-term protectiveness.[45]

The above tools appear to serve a purpose in enhancing reuse, but their use and effectiveness as management controls for ensuring long-term human health protection has not been evaluated. However, the EPA has taken significant steps to address and remedy vulnerabilities in the Superfund Five-Year Review process. In 2009, the EPA completed a review of the quality of Five-Year Reviews.[46] The agency identified many reviews that needed additional support and some that needed to modify their safety determinations. Additional actions such as modifying the agency's 2001 guidance on Five-Year Reviews may be forthcoming. In a February 2012 report, we recognized important improvements in the EPA's review and oversight of Five-Year Reviews.[47] The EPA has implemented national review of Five-Year Reviews to improve their consistency and quality. Still, our February 2012 report identified additional opportunities for the

---

[37] EPA, *Long-Term Stewardship: Ensuring Environmental Site Cleanups Remain Protective Over Time: Challenges and Opportunities Facing EPA's Cleanup Programs*, EPA 500-R-05-001, September 2005.
[38] EPA, *Superfund Workload Assessment Report*, OSWER Document 9200-2-81, December 2, 2008. Post-construction workload can refer to all activities after a cleanup remedy is constructed (including long-term monitoring and reuse activities).
[39] EPA, *Performance and Accountability Report for Fiscal Year 2009*, section IV, p. 43.
[40] EPA, *Fiscal Year 2010 Agency Financial Report*, section III, p. 37-40.
[41] Ibid, p. 174.
[42] Ibid, p. 187.
[43] Ibid, p. 39.
[44] Ibid, p. 174-175.
[45] Ibid, p. 187-188.
[46] EPA, *Assessing Protectiveness for Asbestos Sites: Supplemental Guidance to Comprehensive Five-Year Review Guidance*, December 3, 2009.
[47] EPA OIG, *Stronger Management Controls Will Improve EPA Five-Year Reviews of Superfund Sites*, Report No. 12-P-0251 February 6, 2012.

EPA to improve its national review process to ensure Five-Year Reviews conducted in the regions are based on quality data and adhere to agency guidance. We believe that the Superfund Five-Year Review process is and should be a "safety-net" for detecting new contamination or other changing site conditions that may identify new potential human health risks. However, our reviews of the Five-Year Review process and conditions at deleted Superfund sites continue to demonstrate that the Five-Year Review process needs to be a stronger safety-net. We currently have an ongoing assignment related to the Office of Solid Waste and Emergency Response's Cross Program Revitalization Measures. We are evaluating whether the EPA's designation of assessed and cleaned up sites that have achieved the "ready for anticipated uses" and/or "protective for people" performance measures include effective controls to ensure long-term protection to human health and the environment.

We will review and recognize the EPA's efforts to address the significant challenge of ensuring the long-term safety of contaminated sites. Our work and the agency's work have shown that the EPA can address some of these internal challenges through improved oversight and management of EPA-directed activities inherent to successful long-term stewardship of contaminated sites. However, successful long-term stewardship also depends on having properly resourced and informed non-EPA parties who have ongoing access to current information, are actively involved in compliance, and conduct appropriate due diligence and oversight of contaminated sites. The EPA is highly limited in addressing this challenge when state or local governments with primary responsibility for addressing many long-term safety issues have neither the money nor the apparent will to do so. Lessons from recent issues such as vapor intrusion show that site reuse can generate new environmental risks. In its FY 2011-2015 Strategic Plan, the EPA notes that:

> Complications can arise when new scientific information concerning contaminants at a site suggests that a risk assessment that was protective when a remedy was selected is no longer protective given the contaminant levels remaining at a site and their potential exposure pathways.... EPA must incorporate emerging science into decision making to maintain its commitment to provide permanent solutions.[48]

The EPA needs new strategies to address the challenges of providing needed information and resources, and having the authority, to ensure long-term safety of reused sites.

Enhancing Information Technology Security to Combat Cyber Threats

From 2000 to 2010, global Internet usage increased from 360 million people to over 2 billion.[49] The EPA, like other federal agencies, has adopted this technology to become more citizen focused and enhance its business operations. Whether it is exchanging data between states, tribes and territories, or conducting financial operations, the Internet has become increasingly woven into how the EPA conducts its daily operations. The EPA's decentralized structure to implement security controls makes it increasingly important for the EPA executives to adopt information technology and cyber security strategies that ensure these practices are fully integrated throughout the agency.

---

[48] EPA FY 2011–2015 Strategic Plan, p. 25.
[49] Department of Defense, *Strategy for Operating in Cyberspace*, July 2011, p. 1.

We reported that the EPA continues to strengthen its IT and cyber security by improving processes in four key areas: (1) risk management planning, (2) Security Information and Event Management tool implementation, (3) Computer Security Incident Response Capability and network operation integration, and (4) Computer Security Incident Response Capability relationship building. However, the challenge still exists primarily due to needed management oversight to ensure components of the information security program are implemented throughout the EPA and offices follow through with executing EPA policies, procedures and practices.

Our audit work highlights the need for management action to address the growing use of Internet technologies and the challenges that cyber threats like Advanced Persistent Threats pose to defending the agency's network. While progress has been made, EPA must continue to strengthen its IT security program to reduce the threat posed by cyber attacks. In particular, the agency needs to do the following.

Strengthen User Authentication and Identification Processes. In September 2012, we reported that the EPA needed to improve management and implementation of security controls for its network directory service system and related servers. The EPA lacks effective management oversight practices for this critical system that manages the information and access privileges for users, computers and other equipment on the EPA's network. This weakens the agency's security posture and ability to respond to cyber threats.[50] We noted that the EPA lacks processes to: (1) ensure key information system security documents are kept up to date, (2) manage inactive user accounts and accounts for personnel who have left the agency, (3) oversee users with privilege access to the directory system and to monitor these individuals' activities, and (4) manage the physical security and environmental controls at the locations where the system equipment is located.[51] In response to our report, the EPA concurred with all our recommendations and indicated it has already completed actions to address many of our concerns.[52]

Implement Automated Tools. EPA acknowledges that many of its continuous monitoring effects pivot around the successful implementation of its Security Information Event Management tool.[53] Our September 2012 report disclosed that the EPA lacks a fully developed strategy to include the agency's headquarters offices within the Security Information Event Management tool environment.[54] The strategy includes each of the EPA's regional offices, yet efforts to include headquarters offices fell short due to turnover of technical staff and the EPA discontinuing meetings with headquarters personnel.[55] The EPA also did not develop a formal employee training program on how to use the tool or a computer security log management policy on practices for audit log

[50] EPA OIG, *EPA Should Improve Management Practices and Security Controls for Its Network Directory Service System and Related Servers*, Report No. 12-P-0836, September 21, 2012.
[51] Ibid.
[52] Ibid.
[53] EPA FY 2012 *Agency Financial Report*, p. 183.
[54] EPA OIG, *Improvements Needed in EPA's Network Security Monitoring Program*, Report No. 12-P-0899, September 27, 2012.
[55] EPA Security Information and Event Management (SIEM) Infrastructure, *SIEM Concept of Operations* (CONOPS), June 12, 2011.

storage and disposal and management roles and responsibilities.[56] The EPA has completed two of the four recommendations. Management stated the remaining recommendations would be completed by December 2013.[57] Until then, the EPA faces the challenge that the tool may not meet its intended purpose due to the lack of a clearly defined policy outlining respective roles within the log management infrastructure.

Correct Known Weaknesses in Incident Response Capability. In September 2012, we reported that the EPA did not follow up with staff to confirm whether corrective actions were taken to address identified weaknesses in the agency's incident response program. From 2009 to 2010, the EPA conducted three internal reviews of its information security program to include its incidence response capabilities. We found that the EPA did not create Plans of Actions and Milestones to track completion of 80 of the 102 reported recommendations. The EPA also lacks a centralized oversight process to ensure management completed the recommended actions.[58] We recommended that the EPA create Plans of Actions and Milestones to track the progress in completing the internal recommendations and create a process to verify that the prescribed actions were completed.[59] The EPA completed these corrective actions.[60]

Develop a Vulnerability Remediation Program. In September 2009, we reported that project delays continued to prevent EPA from implementing an agencywide information security vulnerability management program. Our audit highlighted both the need for the EPA to implement a tool to continuously monitor for vulnerabilities and a management process to ensure identified vulnerabilities are remediated.[61] The EPA has since taken steps to procure a vulnerability management tool and established an agencywide methodology to continuously identify vulnerabilities to agency assets.[62] However, EPA offices continue to face challenges in eradicating known vulnerabilities from its assets.[63] Our September 2012 follow-up found that the EPA conducts monthly vulnerability scans of EPA's network, but the staff does not follow up with system owners to verify that they remediated the identified weaknesses. As a result, there is no assurance that EPA's information security staff is remediating vulnerabilities in a timely manner. This places EPA's assets at risk to unauthorized access and potential harm to the network.[64]

---

[56] EPA OIG, *Improvements Needed in EPA's Network Security Monitoring Program*, Report No. 12-P-0899, September 27, 2012.
[57] EPA OIG, *Office of Environmental Information Improvements Needed in EPA's Network Security Monitoring Program*, Report No. 12-P-0899, December 21, 2012.
[58] EPA OIG, *Improvements Needed in EPA's Network Security Monitoring Program*, Report No. 12-P-0899, September 27, 2012.
[59] Ibid.
[60] EPA OIG, *Improvements Needed in EPA's Network Security Monitoring Program*, Report No. 12-P-0899, December 21, 2012.
[61] EPA OIG, *Project Delays Prevent EPA from Implementing an Agency-wide Information Security Vulnerability Management Program,* Report No. 09-P-0240, September 21, 2009.
[62] Ibid.
[63] EPA OIG website, FYs 2009–2012 OIG reports on the results of technical vulnerability assessments of the EPA's network, http://www.epa.gov/oig/reports/infotech.htm.
[64] EPA OIG, *Improvements Needed in EPA's Network Security Monitoring Program*, Report No. 12-P-0899, September 27, 2012.

In response, the EPA is ensuring that offices have access to all agency server vulnerability findings and updating standard operating procedures, to include oversight responsibilities for remediating vulnerabilities within 30 days or putting in place Plans of Actions and Milestones.[65] Minimizing the EPA's response time between vulnerability identification and remediation is key to protecting EPA's critical assets and data, and combating cyber attacks.

Increase Skills for Personnel With Significant Security Responsibilities. We found that the EPA did not develop strategies to align its workforce with legislative, regulatory and agency objectives. Having personnel with the right skills in the right position is critical for EPA to respond effectively to cyber attacks. The EPA recognizes that not all information security officers perform the same functions nor possess comparable technical knowledge and abilities.[66] We initiated an audit to evaluate the qualifications, skills and competencies of personnel with significant information security responsibilities.[67]

Improve the Overall Information Security Program. The EPA is strengthening risk management governance by: (1) providing EPA executive reports on system authorizations and plans of actions to elevate awareness of system statuses; (2) conducting independent reviews of information system security controls, with all agency systems being assessed by the end of FY 2014; (3) defining an enterprise level risk management process; and (4) implementing a Risk Executive Board to ensure acceptable and cost-effective system authorizations.[68] However, the EPA has significant deficiencies in the following security areas: Continuous Monitoring Management, Configuration Management, Risk Management, Plan of Action and Milestones, and Contractor Systems. While the EPA developed a continuous monitoring strategic plan, the agency has yet to implement ongoing assessment of security controls as outlined in the plan and required by federal guidance. The EPA does not have a process for timely remediation of deviations noted during testing. The EPA can also improve its oversight to ensure that Plans of Action and Milestones are completed and all offices complete required annual security reviews.[69]

While the EPA's decentralized structure provides management with the flexibility to tailor information security controls to address local needs, the structure proves to be problematic in ensuring that controls are consistently implemented agencywide and that weaknesses are properly reported for remediation tracking. The EPA leadership must continue to meet the IT and cyber security challenge head-on as it defines ways to protect its infrastructure and the data within the network. Stronger executive leadership, with emphasis on enhancing the IT

---

[65] Ibid.
[66] EPA OEI, PowerPoint Presentation, *Dual ISO Designations,* presented at September 20, 2011, Quality and Information Council Meeting.
[67] EPA OIG, *Notification Memorandum for Project No. OMS-FY12-0006, Assessment of the Qualifications of Environmental Protection Agency Personnel with Significant Security Responsibilities,* February 15, 2012.
[68] EPA OIG, *Fiscal Year 2012 Federal Information Security Management Act Report Status of EPA's Computer Security Program*, Report No. 13-P-0032, October 26, 2012.
[69] EPA OIG, Briefing Report: *Improvements Needed in EPA's Information Security Program*, Report No. 13-P-0257, May 13, 2013.

management control structure and holding EPA offices accountable for following it, is needed. Our current audits continue to highlight the need for management to take recommended actions to strengthen IT security practices pivotal to combating the growing cyber threat. Without immediate action, the EPA will not have the requisite tools to implement an effective, risk-based security program capable of addressing the most sophisticated threats on the horizon.

The EPA's Framework for Assessing and Managing Chemical Risks

Since 1976, the Toxic Substances Control Act has charged the EPA with the responsibility of assessing risks from and taking action against those chemicals that pose significant risks to human health and the environment. Under TSCA, the EPA is required to (1) create an inventory of existing chemicals already in commerce,[70] (2) regulate unreasonable risk from new chemicals introduced into commerce subsequent to the act,[71] and (3) make health and safety information available while protecting manufacturers' confidential business information.[72] The TSCA inventory of chemicals in commerce now exceeds 84,000 chemicals.[73] In February 2012, the EPA issued its Existing Chemicals Program Strategy to pursue a multi-pronged approach focusing on risk assessment and reduction, data collection, screening, and furthering public access to chemical data and information. The EPA believes that this significant and long-term challenge can best be met via legislative reform of TSCA to improve the EPA's chemical management authorities.

The EPA's effectiveness to assess and manage chemical risks is held back in part by limitations on the agency's authority to regulate chemicals under TSCA. When TSCA was enacted, it authorized the manufacture and use, without any evaluation, of all chemicals that were produced for commercial purposes prior to 1976. As a result, manufacturers of these grandfathered chemicals were not required to develop and produce data on toxicity and exposure that the EPA needs to fully assess potential risks. Compounding this problem, TSCA did not provide the EPA with adequate authority to evaluate existing chemicals as new concerns arose or as new scientific information became available. However, until reform occurs, the EPA's responsibility to create a sustained and effective existing chemicals program must be carried out under current authorities.

Every year, the EPA's New Chemicals Program reviews and manages the potential risks from approximately 1,000 new chemicals, products of biotechnology, and nanoscale materials prior to their entry into the marketplace. Our 2010 report showed that the New Chemicals Program did not have integrated procedures and measures in place to ensure that new chemicals do not pose an unreasonable risk to human health and the environment.[74] We recommended that the EPA better coordinate risk assessment and oversight activities by establishing a management plan with new goals and measures to demonstrate the results of EPA actions. We further recommended that the EPA establish criteria for: (1) selecting chemicals or classes of chemicals

---

[70] 15 U.S.C. §2607(b)
[71] 15 U.S.C. §2605
[72] 15 U.S.C. §2613.
[73] EPA website, TSCA Chemical Substance Inventory: Basic Information. (Updated February 25, 2013) http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/basic.html#background.
[74] EPA OIG, *EPA Needs a Coordinated Plan to Oversee Its Toxic Substances Control Act Responsibilities*, Report No. 10-P-0066, February 17, 2010.

for low-level exposure and cumulative risk assessments, and (2) classifying confidential business information to improve the EPA's transparency and information sharing. Finally, we recommended that the EPA develop a management plan for core TSCA enforcement, including training, consistent monitoring and inspection strategies across regions, and a list of manufacturers and importers of chemicals for strategic targeting. The agency agreed with our recommendations and is completing the corrective actions.

We continued to identify challenges to the EPA's ability to both assess and manage chemical risks when we evaluated how effectively the EPA manages the human health and environmental risks of nanomaterials.[75] We found that although the EPA has the statutory authority to regulate nanomaterials, it lacks the environmental and human health exposure and toxicological data to do so effectively. The EPA has proposed mandatory reporting rules for nanomaterials under the Federal Insecticide, Fungicide, and Rodenticide Act, and is also developing proposed rules under TSCA. We also found that the EPA lacked a formal process to coordinate the dissemination and utilization of the potentially mandated information. The agency agreed with our recommendation to establish a process.

We also evaluated whether the outcomes of the EPA's Voluntary Children's Chemical Evaluation Program met its goals outlined under the Chemical Right-to-Know Initiative.[76] We found that the Voluntary Children's Chemical Evaluation Program pilot did not achieve its goals to design a process to assess and report on the safety of chemicals to children. The pilot's design had a flawed chemical selection process and lacked an effective communication strategy. Programmatic effectiveness was further hampered by industry partners who chose not to voluntarily collect and submit information, and the EPA's decision not to exercise its regulatory authorities under TSCA to compel data collection. The EPA has not demonstrated that it can achieve children's health goals with a voluntary program.

The EPA's framework for assessing and managing chemical risks from endocrine disruptors is also failing to show results.[77] In 2000, the EPA estimated that approximately 87,000 chemicals would need to be screened for potential endocrine-disrupting effects. Thirteen years after establishing its Endocrine Disruptor Screening Program, the EPA still has yet to determine whether *any* chemical is a potential endocrine disruptor. We found that the EPA had not developed a management plan laying out the program's goals and priorities or performance measures to track program results. The agency did not establish specific procedures to evaluate screening results. Completed activities also exceeded their targets by about 4½ to 6 years. In response to our recommendations, the EPA issued its Endocrine Disruptor Screening Program

---

[75] EPA OIG, *EPA Needs to Manage Nanomaterial Risks More Effectively*, Report No. 12-P-162, December 29, 2011.

[76] EPA OIG, *EPA's Voluntary Chemical Evaluation Program Did Not Achieve Children's Health Protection Goals*, Report No. 11-P-0379, July 21, 2011. The goal of the initiative was to give citizens information on the effects of chemicals to enable them to make informed choices in the home and marketplace. The initiative directed the EPA to undertake testing of chemicals to which children are disproportionately exposed.

[77] In August 1996, Congress passed both the Food Quality Protection Act and amendments to the Safe Drinking Water Act that require the screening and testing of chemicals and pesticides for possible endocrine-disrupting effects (i.e., adverse effects on the development of the brain and nervous system, reproductive system, metabolism and blood-sugar levels). The EPA then established the Endocrine Disrupter Screening Program in 1998 to use validated methods for the screening and testing of chemicals to identify potential endocrine disruptors.

Comprehensive Management Plan containing a three-part plan to implement: (1) scientific advancement of Tier 1 data reviews and Tier 2 assay development and validation (including advancing the state of the science in chemical priority setting and screening); (2) test order management and implementation, including prioritizing chemicals, developing policies and procedures, and issuing and managing test orders; and (3) data management by developing an enhanced and consolidated information infrastructure.[78]

In May 2009, the EPA released a new Integrated Risk Information System process for completing health assessments. The goals of the new process are to strengthen program management, increase transparency, and expedite the timeliness of health assessments. Since then, the agency's National Center for Environmental Assessment has completed over 20 assessments. In response to congressional interest, we surveyed the EPA to determine if it regularly incorporates exposure dose concentrations or toxicity values from the IRIS database into regulatory decision-making.[79] We found no EPA policy mandating the use of any toxicity database including IRIS. Nevertheless, 85 percent of the EPA survey respondents reported that they have used IRIS as their primary source for cancer values and 81 percent have used IRIS as their primary source for non-cancer values. About one-third of the respondents reported that they have used an alternate source for toxicity values when an IRIS value was available, primarily because the alternate source was more up to date with current scientific practice or information.

We have initiated work to determine how well the EPA's Reduced-Risk Pesticide Initiative meets its goal of reducing risks to human health and the environment by encouraging the development, registration and use of pesticide products that are lower risk.[80] Given our completed and ongoing work, coupled with the size, complexity and significance of chemical risks to human health and the environment, we believe this issue warrants being retained as an agency management challenge.

Workforce Planning

In 2002, the EPA first acknowledged human capital as an agency internal control weakness in part due to requirements released under the President's Management Agenda[81] and audit findings that identified significant concerns with the agency's management of human capital.[82] The EPA since has developed numerous strategic documents to direct its human capital efforts to focus on the skills, competencies and occupations needed to carry out its mission.[83] While this is useful,

---

[78] EPA OIG, *EPA's Endocrine Disruptor Screening Program Should Establish Management Controls to Ensure More Timely Results*, Report No. 11-P-0215, May 3, 2011.

[79] EPA OIG, *Congressionally Requested Information on the EPA Utilization of Integrated Risk Information System*, Report No. 13-P-0127, January 31, 2013. IRIS evaluates risk information on human health effects that may result from exposure to environmental contaminants. IRIS consists of chemical assessments and quantitative toxicity values that have been developed by the EPA and undergone peer review. It contains information for more than 550 chemical substances, including cancer and non-cancer human health effects.

[80] EPA OIG, *Notification of Preliminary Research to Evaluate the U.S. Environmental Protection Agency's Reduced-Risk Pesticide Initiative Project No. OPE-FY13-003*, March 13, 2013.

[81] EPA, *EPA Strategic Alignment – Human Capital Planning*, January 3, 2008, p. 1.

[82] EPA, OCFO, *2007 Performance Accountability Report*, p. 205-06.

[83] EPA, *EPA Strategic Alignment – Human Capital Planning, Green Summary*, January 3, 2008, p. 1.

the EPA has not developed analytical methods or collected data to measure its workload and the corresponding workforce levels necessary to carry out that workload.

In 2008, the EPA removed human capital from the list of agency weaknesses and added the more specific topic of workforce planning as an Office of the Chief Financial Officer office-level weakness. Previous EPA OIG and GAO reports—described below—recommend that the EPA strengthen internal controls—policies, procedures and methods—for workforce planning. The need for systematic, agencywide analysis of workload and workforce levels is broader than OCFO and impacts the ability of all EPA programs to efficiently and effectively carry out their mission. Due to the broad implications of workforce planning on accomplishing the EPA's mission, we are including it as an agency management challenge for 2012.

In 2010, we reported that the EPA did not have controls or a defined methodology to determine workforce levels based upon the workload of the agency.[84] The EPA's OCFO establishes budget workforce levels based on the prior year's levels and proposed funding levels. The EPA's program and regional offices are not conducting systematic workload analysis or identifying workforce needs for budget justification purposes, and have not done so in more than 20 years.

In 2011, we reported[85] that the EPA does not require program offices to collect and maintain workload data. These programs do not have databases or cost accounting systems in place to collect data on time spent on specific mission-related outputs. Without such data, program offices are limited in their ability to analyze their workload and justify resource needs.

The GAO also reported that the EPA's process for budgeting and allocating resources does not fully consider the agency's current workload. In March 2010, the GAO reported that it had brought this issue to the attention of EPA officials in successive reports in 2001, 2005, 2008 and 2009.[86] In response, the EPA stated that it recognized the need to improve its ability to understand and quantify the relative workload of its component organizations and to make allocation decisions based on those assessments. The EPA said that it was committed to improving its analytical capabilities and examining workload measures to support the resource allocation process.

In February 2010, we reported that the EPA does not enforce a coherent program of position management to assure the efficient and effective use of its available workforce.[87] Without an agencywide position management program, the EPA leadership lacks reasonable assurance that it is using personnel both effectively and efficiently to achieve its mission. In 2011,[88] we found that EPA's Office of Enforcement and Compliance Assurance is constrained from actively managing its resources to direct them to the most important state enforcement problems. Currently, the

---

[84] EPA OIG, *EPA Needs to Strengthen Internal Controls for Determining Workforce Levels*, Report No. 11-P-0031, December 20, 2010.
[85] EPA OIG, *EPA Needs Workload Data to Better Justify Future Workforce Levels*, Report No. 11-P-0630, September 14, 2011.
[86] GAO, *Workforce Planning: Interior, EPA, and the Forest Service Should Strengthen Linkages to Their Strategic Plans and Improve Evaluation*, GAO-10-413, March 31, 2010, page 19.
[87] EPA OIG, *EPA Needs Better Agency-Wide Controls over Staff Resources*, Report No. 11-P-0136, February 22, 2011.
[88] EPA OIG, *EPA Must Improve Oversight of State Enforcement*, Report No. 12-P-0113, December 9, 2011.

EPA regions divide their resources among several enforcement priorities, including state oversight. If these regions report that they are having problems with state enforcement, the Office of Enforcement and Compliance Assurance cannot reallocate full-time equivalents to address the problem because the office does not control enforcement resources in the regions. Therefore, priority enforcement issues may not receive needed resources.

The EPA has paid contractors nearly $3 million to conduct various workload studies over the years, but then generally did not take action on or widely share the results. In 2006, OCFO awarded a contract to gather information on methods other government agencies use to assess workload and staffing needs and their potential use by the EPA. The EPA planned to use this information to develop methods for assessing staffing in relation to workload and benchmark staffing levels against workload shifts over time. Results showed that there were not significant similarities among agencies. The contractor then recommended that OCFO develop its own approach for assessing and adjusting workforce allocation to align with workload.

In 2012, the EPA issued a final report, *Developing a Model Civil Rights Program for the Environmental Protection Agency*, highlighting fundamental changes the EPA is planning to develop a more robust civil rights program. One of the key recommendations from this effort was the development of a staffing plan for agency civil rights functions. The recommendation calls for the same types of workforce actions we have been encouraging the agency to undertake, including:

- Identifying the essential functions based upon data.
- Determining the skills and numbers of employees to carry out those functions.
- Developing a staffing plan.
- Requesting needed full-time equivalents/resources through the budget process.

The EPA continues to develop and test options for implementing workforce planning but has yet to implement workforce analysis agencywide. The EPA's ability to assess its workload and accurately estimate workforce levels necessary to carry out that workload is critically important to mission accomplishment. While the EPA has and continues to take action to address the longstanding issue of workforce analysis, much work remains to develop practical methods that the agency can use to accurately estimate workload and staffing levels.