U.S. DEPARTMENT OF ENERGY

Office of Enterprise Assessments Fiscal Year 2019 Independent Oversight Activities Overview

Report to Congress
October 2019

United States Department of Energy
Washington, DC 20585

Message from the Secretary

The activities of the Office of Enterprise Assessments (EA) exemplify the Department of Energy's (DOE) commitment to protect national security assets and the health and safety of DOE employees and the public. EA provides an internal management assessment function for the Department that examines operations relating to security (physical, information, and cyber); environment, health, and safety (nuclear and industrial); and other critical functions of the DOE enterprise.

This report contains an overview of EA independent oversight activities, findings, and recommendations for Fiscal Year 2019 as requested in House Report 114-91.

This report is being provided to the following Members of Congress:

- **The Honorable Nita M. Lowey**
  Chairwoman, House Committee on Appropriations
- **The Honorable Kay Granger**
  Ranking Member, House Committee on Appropriations
- **The Honorable Marcy Kaptur**
  Chairwoman, Subcommittee on Energy and Water Development
  House Committee on Appropriations
- **The Honorable Mike Simpson**
  Ranking Member, Subcommittee Energy and Water Development
  House Committee on Appropriations
- **The Honorable Richard Shelby**
  Chairman, Senate Committee on Appropriations
- **The Honorable Patrick Leahy**
  Vice Chairman, Senate Committee on Appropriations
- **The Honorable Lamar Alexander**
  Chairman, Subcommittee on Energy and Water Development
  Senate Committee on Appropriations
- **The Honorable Dianne Feinstein**
  Ranking Member, Subcommittee on Energy and Water Development
  Senate Committee on Appropriations

If you have any questions or need additional information, please contact me or Ms. Katie Donley, Deputy Director of External Coordination, Office of the Chief Financial Officer, at (202) 586-0176.

Sincerely,

Rick Perry

Rick Perry

Executive Summary

The Office of Enterprise Assessments (EA) is responsible for implementing an Independent Oversight Program for security and safety within the U.S. Department of Energy (DOE) in accordance with DOE Order 227.1A, *Independent Oversight Program*. This function is an integral element of the Department's responsibility as a self-regulating agency to provide assurance of its security and safety posture to leadership, workers, and the public. The purpose of this report is to provide an overview of independent oversight activities, findings, and recommendations for Fiscal Year (FY) 2019 to the Energy and Water Development Appropriations Committee, as requested in House Report 114-91.

Sixty-three independent oversight reports for assessments conducted at 29 DOE (including National Nuclear Security Administration and Power Marketing Administrations) locations were produced in FY 2019. EA did not identify any immediate or major risks that warranted shutdown of operations. Overall, DOE's security and safety programs are consistently fulfilling the objective of protecting workers, the public, and national security, although continued attention and improvement are needed in some areas.

Independent oversight assessment reports are provided to DOE senior managers, applicable DOE program and line managers, contractor managers, and other DOE stakeholder organizations, e.g., the Offices of Environment, Health, Safety and Security; the Inspector General; the Chief Information Officer; Intelligence and Counterintelligence; and Public Affairs, to promote improvements in security and safety performance. Recommendations and areas for improvement identified in assessment reports pertained to:

- Improving security risk assessments, analyses, mitigation, and acceptance;
- Timely implementation of evolving security and safety requirements;
- Improving hazard identification, evaluation, and control;
- Enhancing the quality and breadth of assessment and issues management processes;
- Sustaining federal staffing and expertise to support contractor oversight; and
- Improving safety, cyber and physical security, and emergency management programs.

This report contains a summary of the DOE Independent Oversight Program; a summary of FY19 independent oversight activities; a listing of independent oversight assessment reports completed in FY19; and overall conclusions and recommendations.

OFFICE OF ENTERPRISE ASSESSMENTS
FISCAL YEAR 2019
INDEPENDENT OVERSIGHT ACTIVITIES OVERVIEW

Table of Contents

I. Legislative Language

This report fulfills a request from the House Committee on Appropriations in House Report 114-91, which accompanied the Energy and Water Development Appropriations Bill, 2016. The request states:

> *The Office of Independent Enterprise Assessments is directed to continue to provide [to the House Committee on Appropriations] an annual report of its oversight activities, findings, and recommendations for the previous fiscal year.*

II. Independent Oversight Program

The Office of Enterprise Assessments (EA) is responsible for implementing an Independent Oversight Program for security and safety within the U.S. Department of Energy (DOE) in accordance with DOE Orders 227.1A, *Independent Oversight Program*, and 226.1B, *Implementation of Department of Energy Oversight Policy*. To carry out this responsibility, EA conducts independent oversight assessments to identify gaps and vulnerabilities in safeguards and security, cybersecurity, safety, and emergency management programs and performance to assist in the prevention and mitigation of events that could negatively impact workers, the public, the environment, and/or national security.

Independent oversight activities are selected and tailored to the unique needs of each DOE program and site office, and consider relative risks and past performance in determining specific activities. Independent oversight assessments are designed to complement, not replace, DOE line management's responsibility to monitor and oversee contractor security and safety programs and performance, manage contracts, and conduct self-assessments.

Safeguards and security and cybersecurity independent oversight assessments gauge the effectiveness of security-related policies and programs throughout the Department. These assessments are performed to provide assurance that nuclear weapons and weapons components, special nuclear material, classified matter, and classified and sensitive information are being protected from theft, sabotage, diversion, loss, or unauthorized disclosure. Follow-up assessments are performed as appropriate to evaluate progress and effectiveness in implementing corrective actions for previously identified issues.

Safeguards and security assessments generally evaluate functional areas as described in EA protocols; and include:

- Program planning and management;
- Personnel security;
- Protective force;
- Physical protection systems;

- Material control and accountability; and,
- Information Security.

Cyber assessments evaluate foundational cybersecurity program elements such as:

- Risk management;
- Configuration management;
- Contingency planning;
- Continuous monitoring;
- Identity and access management;
- Vulnerability management; and,
- Technical implementation (through announced and unannounced penetration testing).

Environment, safety and health (ES&H) independent oversight assessments evaluate nuclear safety, selected facility and worker safety programs, integrated safety management performance, and emergency response capabilities. These assessments are performed to assess adequate protection of the public, workers, and the environment, particularly at DOE sites with nuclear facilities or conducting nuclear or radiological activities, and provide feedback to leadership and line management on needed improvements.

EA has designated Site Leads to monitor specific DOE nuclear operations in order to plan and coordinate assessment activities. ES&H assessment activities are primarily focused on:

- Evaluating the status of nuclear safety at DOE nuclear facilities, including the functionality of vital safety systems and other nuclear safety programs and functions;
- Conducting reviews of design and construction of new or significantly modified nuclear facilities*;*
- Conducting targeted, multi-site nuclear safety reviews of selected focus areas that are of interest due to known performance deficiencies, high risks, or recent changes in requirements, such as the current complex-wide assessment of radiological waste packaging and transportation;
- Evaluating emergency management capabilities at DOE sites with nuclear activities and significant quantities of hazardous materials;
- Conducting reviews of safety programs at sites or within organizations where performance may present significant risk (e.g., less than expected safety performance and/or serious or recurring incidents or violations of requirements); and
- Evaluating line management feedback and improvement processes.

The Independent Oversight Program assessment processes are described in protocols available on the EA website[1]. The protocols provide a disciplined and consistent approach to monitoring,

[1] http://www.energy.gov/sites/prod/files/2016/01/f28/Appraisal%20Process%20Protocols%20-%20December%202015.pdf

evaluating, and reporting the status of security and safety program implementation within DOE. The processes have been developed and refined over time and tested through repeated use during many different types of assessments.

EA constantly strives to improve its internal processes as part of a continuing effort to enhance its products and the value EA provides to DOE. EA managers are expected to solicit information from assessment team members and line management personnel that can be used to improve EA's oversight program and processes.

III. Activities and Findings

A broad range of assessments was conducted in FY19 at sites critical to DOE's missions to evaluate the effectiveness of physical and cybersecurity programs; nuclear safety and worker safety and health programs; and emergency management programs. EA safeguards and security and cybersecurity assessments focused on DOE operations and systems that manage special nuclear material (SNM), classified matter (physical assets and information), national security information, and other sensitive assets entrusted to the Department. EA focused significant effort on safety assessments of high-hazard nuclear construction projects and operations at the Hanford Site Waste Treatment and Immobilization Plant Project, the Y-12 National Security Complex Uranium Processing Facility, and the Savannah River Site Salt Waste Processing Facility. EA is also in the process of conducting a complex-wide assessment of radiological waste packaging and transportation at the direction of the Office of the Secretary.

The information contained herein was derived from independent oversight assessment reports issued in FY19. Some referenced reports pertain to assessments conducted in the latter part of FY18. Some assessments conducted in the latter part of FY19 are not referenced herein as the assessment reports will not be issued until after FY20 has begun.

In previous annual reports, safeguards and security assessments of field intelligence elements and special access programs were categorized as "information security assessments." These assessments are now included in the safeguards and security or cybersecurity assessments categories, as applicable.

A. Safeguards and Security Assessments

Twenty-three safeguards and security assessments at 18 DOE locations were completed in FY19. Nine of the locations possessed Category I quantities of SNM[2]. Three assessments were

[2] Category I SNM means in any combination a quantity of: 2 kg or more of plutonium; 5 kg or more of U-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope); 2 kg or more of U-233; or 5 kg or more in any combination computed by the equation grams = (grams contained U-235) + 2.5 (grams U-233 + grams plutonium). This is often referred to as a formula quantity.

conducted at field intelligence units and three special access programs (SAP) were assessed. The table at the end of this section identifies the locations of these assessments except for the field intelligence unit and SAP assessments.

Safeguards and security assessments evaluated the adequacy of security programs in protecting Category I quantities of SNM; special access, national security and intelligence information; and other national security assets. This was accomplished primarily by performing comprehensive multi-topic assessments (including force-on-force exercises) and limited-notice performance testing. The ability of sites to plan and conduct realistic tests of their response capabilities was routinely evaluated during these assessments.

Assessment results indicated that sites are ready to meet mission requirements in the event of a malevolent event and are providing the requisite protection to DOE security interests through layered protective mechanisms and well-trained, well-equipped and proficient protective forces. Extensive performance testing demonstrated that protective force personnel are executing their assigned duties effectively and physical security systems are functioning as intended. Performance testing also revealed that while sites are generally effective in designing, planning, and conducting realistic performance tests, attention is warranted to ensure that such tests are better controlled to ensure safety and to ascertain whether the test objectives have been met. Safeguards and security assessment results also indicated that continued management attention is needed to: implement revised Departmental security requirements in a timely manner, improve the analytical bases for establishing site security programs to reflect current operations and support management of risks, and upgrade site performance assurance programs to identify areas where security programs are not compliant or performing as required and ensure that causal analyses are effective in preventing the continuation or recurrence of program weaknesses. Specific findings, recommendations and areas for improvement are contained in the assessment reports.

Assessments of classified matter protection and control systems indicated that DOE organizations were controlling and protecting classified information and had established effective access authorization programs to verify individual eligibility for access to particular types or categories of classified matter. Sites have implemented effective operations security programs to identify and protect critical information, routinely review and update the associated documentation, and conduct assessments to sustain effective performance. Marking issues, such as incorrect classification markings and erroneous downgrade markings, were evident in various classified documents, media holdings, and working papers; and some document destruction equipment and practices did not meet Departmental requirements.

Specific findings, recommendations and areas for improvement are contained in the assessment reports.

B. Cybersecurity Assessments

Nine cybersecurity assessments at nine DOE locations and one cybersecurity assessment at a field intelligence unit were completed in FY19. The table at the end of this section identifies the locations of these assessments except for the field intelligence unit assessment.

Cybersecurity assessments evaluated the maturity and effectiveness of the risk management programs and technical security controls applied to protect classified and unclassified networks, applications, and information. EA operated a cybersecurity testing network to conduct announced penetration tests of networks to evaluate internal and external threats, and unannounced penetration tests conducted by a red team of simulated adversaries to identify weaknesses that could expose a network to a cyberattack. Evaluation of the technical controls protecting a Power Marketing Administration supervisory control and data acquisition (SCADA) development system (a near replica of the production SCADA environment) was also conducted.

Assessment results indicated that sites are continuing to improve their cybersecurity risk management programs and supporting processes, such as change management and vulnerability management. Cybersecurity programs for classified networks and information are generally well managed and provide adequate protection to the systems and information processed on the classified resources. Effective protection of unclassified networks and information is more variable, with needed improvement in several areas. These include technical elements, such as security control testing, continuous monitoring, and intrusion detection; and programmatic elements, such as authorizations to operate, program documentation, and assessment and mitigation of all known risks. Specific findings, recommendations and areas for improvement are contained in the assessment reports.

C. Nuclear Safety and Environment Assessments

Twenty nuclear safety assessments at eight DOE locations were completed in FY19. The table at the end of this section identifies the locations of these assessments.

Nuclear safety assessments focused on implementation of nuclear safety management programs, development and implementation of safety bases for nuclear facilities, conduct of operations, radiological waste packaging and transportation, contractor assurance and issues management systems, and Federal oversight of contractor operations. Construction quality and startup activities for DOE's major nuclear design and construction projects continued to be a focus of nuclear safety assessments. Management of shutdown nuclear facilities and facilities undergoing deactivation was also evaluated.

Assessment results indicated that DOE nuclear facilities generally meet applicable nuclear safety requirements. Processes and procedures established to fulfill nuclear facility safety management functions (e.g., maintenance, system engineering) are well developed and effectively implemented. Safety systems at operating nuclear facilities continue to be well maintained and managed in a way that ensures the systems can perform their intended safety functions. While most Federal oversight processes were found to be effective in monitoring and evaluating contractor performance, continuing weaknesses in contractor processes for capturing, analyzing, resolving, and tracking deficiencies were evident. Targeted assessments of issues management are planned through FY21. Specific best practices, findings and areas for improvement are contained in the assessment reports.

D. Worker Safety and Health Assessments

Four worker safety and health assessments, one follow-up assessment and one lessons learned assessment were completed in FY19. The table at the end of this section identifies the locations / topics of these assessments.

Worker safety and health assessments focused on the effectiveness of site work planning and control systems to establish controls to protect workers from hazards at DOE facilities, including radioactive materials, beryllium, other hazardous chemicals, and physical hazards. In addition, a follow-up assessment of actions taken to improve safety management and address recommendations from a previous assessment at the Bonneville Power Administration was conducted, and a lessons learned assessment of injury and illness recordkeeping and reporting across DOE was issued.

Assessment results indicated that appropriate frameworks to support effective work planning and control processes have been established, but that basic weaknesses in identifying and controlling some hazards persist. Continued management attention is needed to ensure that required sampling, monitoring, and exposure assessment functions are performed to protect workers from potential workplace hazards. Specific findings, recommendations, and areas for improvement are contained in the assessment reports.

E. Emergency Management Assessments

Three emergency management assessments and one lessons learned assessment were completed in FY19. The table at the end of this section identifies the locations of these assessments.

Emergency management assessments evaluated emergency management exercise programs and the program elements and response organization performance demonstrated during major site exercises. Assessments also evaluated actions taken to rectify weaknesses identified in prior assessment reports. A crosscut report of lessons learned from emergency management assessments conducted in 2018 was also published.

Assessment results indicated that sites generally had well-developed and effectively implemented emergency management exercise and response programs with some areas of weakness. Common weaknesses were observed in exercise design and evaluation, communications among responders, protective actions, and issues management processes. Specific findings, recommendations and areas for improvement are contained in the assessment reports.

F. EA FY 2019 Independent Oversight Assessments by DOE Location / Entity

	Safeguards & Security	Cybersecurity	Nuclear Safety & Environment	Worker Safety & Health	Emergency Management
NATIONAL NUCLEAR SECURITY ADMIN.					
Ten Locations	13	2	2	1	2
SCIENCE and ENERGY					
Argonne National Lab.		1			
Fermi National Accelerator Lab.		1		1	
Idaho National Lab.	1	1	1		
Oak Ridge National Lab.				1	
Pacific Northwest National Lab.			1		
Princeton Plasma Physics Lab.	1				
Strategic Petroleum Reserve	1				
ENVIRONMENTAL MANAGEMENT					
Hanford Site	2		5		
Idaho Clean-up Project			1		
Paducah Gaseous Diffusion Plant	1	1			
Portsmouth Gaseous Diffusion Plant		1			
Savannah River Site	1		8		1
Waste Isolation Pilot Plant			1		
West Valley Demonstration Project				1	
BONNEVILLE POWER ADMIN.				1	
SOUTHWESTERN AREA POWER ADMIN.		1			
DOE Headquarters (Chief Information Officer)		1			
Field Intelligence Elements	3	1			
Crosscut/Lessons Learned/Best Practice Assessments				1	1

IV. Independent Oversight Reports Listing

This section contains a list of independent oversight assessment reports issued in FY19 in chronological order by discipline, except as otherwise noted. Reports identified in the safeguards and security and cybersecurity sections contain classified and/or controlled unclassified information and, therefore, are not available to the public. Titles of assessments of special access programs and Office of Intelligence and Counterintelligence field intelligence elements are not identified in this report or on the EA website. The nuclear safety and environment, worker safety and health, and emergency management report titles link to the corresponding reports on the EA website.

A. Safeguards and Security

1. Office of Enterprise Assessments Safeguards and Security Assessment at the Pantex Plant, October 9, 2018
2. Results of Limited-Notice Performance Tests at the Y-12 National Security Complex, Conducted September 25-27, 2018; October 18, 2018
3. Office of Enterprise Assessments Safeguards and Security Assessment at the Princeton Plasma Physics Laboratory, November 27, 2018
4. Results of Limited-Notice Performance Tests at the Hanford Site, Conducted November 6-8, 2018; December 21, 2018
5. Results of Limited-Notice Performance Tests at the Savanah River Site, Conducted December 4-6, 2018; January 9, 2019
6. Results of Limited-Notice Performance Tests at the Los Alamos National Laboratory, Conducted January 15-17, 2019; March 14, 2019
7. Safeguards and Security Assessment at the Nevada National Security Site, April 1, 2019
8. Results of Limited-Notice Performance Tests at the Lawrence Livermore National Laboratory, Conducted February 19-21, 2019; April 1, 2019
9. Results of a Preliminary Review of the National Nuclear Security Administration's Savannah River Site Tritium Facility, April 2, 2019
10. Results of Limited-Notice Performance Tests at the Hanford Site, Conducted March 26-28, 2019; April 24, 2019
11. Results of Limited-Notice Performance Tests at the Idaho National Laboratory, Conducted April 2-4, 2019; June 3, 2019
12. Results of Limited-Notice Performance Tests at the Strategic Petroleum Reserve, Conducted April 16-18, 2019; June 3, 2019
13. Results of Limited-Notice Performance Tests at the Kansas City National Security Campus, Conducted June 4-6, 2019; July 22, 2019
14. Results of Limited-Notice Performance Tests at the Pantex Plant, Conducted June 18-20, 2019; July 22, 2019
15. Office of Security Assessments Safeguards and Security Assessment at the Y-12 National Security Complex, July 22, 2019
16. Office of Security Assessments Appraisal of the Material Control and Accountability Program at the Paducah Gaseous Diffusion Plant, August 6, 2019

17. Results of Limited-Notice Performance Tests at the Sandia National Laboratories – New Mexico, Conducted July 16-18, 2019; September 6, 2019

B. Cybersecurity

1. Technical Assessment of the Cyber Security Program at the Southwestern Power Administration, October 2018
2. Independent Assessment of the Office of Nuclear Energy Unclassified and Classified Cybersecurity Programs at the Idaho National Laboratory, December 2018
3. Independent Programmatic and Technical Assessment of the Office of Science Unclassified and Classified Cybersecurity Programs at the Argonne National Laboratory, January 2019
4. Independent Programmatic and Technical Assessment of the Unclassified Integrated Joint Cybersecurity Coordination Center Big Data Platform, April 2019
5. Independent Technical Assessment of the Los Alamos National Laboratory Unclassified Cyber Security Program, June 2019
6. Independent Programmatic and Technical Assessment of the Portsmouth Gaseous Diffusion Plant Classified and Unclassified Cybersecurity Program July 2019
7. Independent Programmatic and Technical Assessment of the Paducah Gaseous Diffusion Plant Classified and Unclassified Cybersecurity Program, July 2019
8. Independent Programmatic and Technical Assessment of the Fermi National Accelerator Laboratory Unclassified Cybersecurity Program, August 2019
9. Independent Programmatic and Technical Assessment of the National Nuclear Security Administration Office of Secure Transportation Classified and Unclassified Cybersecurity Program, August 2019

C. Nuclear Safety and Environment

1. Enterprise Assessments Assessment of the Waste Isolation Pilot Plant Conduct of Operations Program Implementation for Underground Operations at the Waste Isolation Pilot Plant - October 2018
2. Enterprise Assessments Assessment of the Hanford Site Waste Treatment and Immobilization Plant Construction Quality – November 2018[3]
3. Enterprise Assessments Assessment the Savannah River Site K-Area Complex Surplus Plutonium Disposition Project Conceptual Safety Design Report – December 2018
4. Enterprise Assessments Assessment of the Idaho National Laboratory Criticality Safety Controls Implementation – January 2019
5. Enterprise Assessments Assessment of the Idaho Site Radioactive Waste Management Complex Contractor Assurance System for the Idaho Cleanup Project – January 2019
6. Enterprise Assessments Assessment of the Savannah River Site Salt Waste Processing Facility Safety Basis – January 2019[3]
7. Enterprise Assessments Assessment of Safety System Management at the Savannah River Site H-Canyon Facility – January 2019
8. Construction Quality and Startup Assessment at the Hanford Site Waste Treatment and Immobilization Plant – March 2019[3]
9. Construction Quality Structural Concrete Placement and Procurement Processes Assessment at the Uranium Processing Facility – March 2019[3]

[3] High-hazard nuclear construction project assessment.

10. Assessment of Savannah River Site Nuclear Facility Training and Qualification Program as Implemented at H-Canyon and F/H Laboratory –April 2019
11. Assessment of the Management of Nuclear Safety Issues at the Los Alamos National Laboratory – April 2019
12. Fire Protection Program Implementation Assessment at the Hanford Site Central Waste Complex and T Plant – May 2019
13. Conduct of Engineering Assessment at the Pacific Northwest National Laboratory – May 2019
14. Construction Quality and Startup Assessment at the Hanford Site Waste Treatment and Immobilization Plant – May 2019[4]
15. Conduct of Operations Assessment at the Savannah River Site Salt Waste Processing Facility – June 2019[4]
16. Shutdown Facility Risk Management Assessment at the Savannah River Site – June 2019
17. Restart of Higher Risk Activities Concurrent Assessment at the Hanford Site Plutonium Finishing Plant – July 2019
18. Safety System Management Assessment at the Savannah River Site Liquid Waste Concentration, Storage, and Transfer Facilities – August 2019
19. Fire Protection Program Implementation Assessment at the Savannah River Salt Waste Processing Facility – August 2019[4]
20. Assessment of the Maintenance of Structures, Systems, Components, and Programmatic Equipment Providing Nuclear Safety at the Los Alamos National Laboratory - September 2019

D. Worker Safety and Health

1. Enterprise Assessments Assessment of the West Valley Demonstration Project Work Planning and Control Program – October 2018
2. Enterprise Assessments Follow-up Assessment of the Bonneville Power Administration Safety Management Program – January 2019
3. Enterprise Assessments Lessons Learned from Assessments of Occupational Injury and Illness Recordkeeping and Reporting at U.S. Department of Energy Sites - January 2019
4. Work Planning and Control Assessment at the Oak Ridge National Laboratory – May 2019
5. Work Planning and Control Assessment at the Fermi National Accelerator Laboratory – July 2019
6. Chronic Beryllium Disease Prevention Program Assessment at the Los Alamos National Laboratory – August 2019

E. Emergency Management

1. Enterprise Assessments Assessment of the Savannah River Site Emergency Management Exercise Program – October 2018
2. Enterprise Assessments Assessment of the Pantex Plant Emergency Management Program – December 2018
3. Lessons Learned from Assessments of Emergency Management Programs at U.S. Department of Energy Sites – May 2019
4. Emergency Management Exercise Program Assessment at the Nevada National Security Site – June 2019

[4] High-hazard nuclear construction project assessment.

V. Conclusions and Recommendations

Sixty-three independent oversight reports documenting safety and security assessments conducted at 29 DOE (including National Nuclear Security Administration and Power Marketing Administrations) locations were produced in FY19. EA did not identify any immediate or major risks that warranted shutdown of operations. Overall, DOE's security and safety programs are effective, and DOE consistently fulfills its responsibilities for protecting workers, the public, and national security, although continued attention and improvement are needed in some areas.

Independent oversight assessment reports are provided to DOE senior managers, applicable DOE program and line managers, contractor managers, and other DOE stakeholder organizations, e.g., the Offices of Environment, Health, Safety and Security; the Inspector General; the Chief Information Officer; Intelligence and Counterintelligence; and Public Affairs. Recommendations and areas for improvement identified in assessment reports pertained to:

- Improving security risk assessments, analyses, mitigation, and acceptance;
- Timely implementation of evolving security and safety requirements;
- Improving hazard identification, evaluation, and control;
- Enhancing the quality and breadth of assessment and issues management processes;
- Sustaining federal staffing and expertise to support contractor oversight; and
- Improving safety, cyber security, safeguards and security, and emergency management programs.