



U.S. DEPARTMENT OF  
**ENERGY**

# Office of Enterprise Assessments Fiscal Year 2016 Independent Oversight Activities Overview

Report to Congress  
December 2016

United States Department of Energy  
Washington, DC 20585

# Message from the Secretary

The Office of Enterprise Assessments (EA), established on May 4, 2014, reflects the Department of Energy's (DOE's) commitment to the health and safety of DOE and contractor employees and the public, environmental stewardship, and protection of the Department's national security assets. That commitment is an integral and urgent part of our mission. EA provides an internal management assessment function that examines activities relating to the environment, health, safety (nuclear and industrial), security (physical, information and cyber), and other critical functions of the DOE enterprise.

This report contains an overview of EA independent oversight activities, findings, and recommendations for Fiscal Year 2016 as requested in House Report 114-91.

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

- **The Honorable Harold D. Rogers**  
Chairman, House Committee on Appropriations
- **The Honorable Nita M. Lowey**  
Ranking Member, House Committee on Appropriations
- **The Honorable Mike Simpson**  
Chairman, Subcommittee on Energy and Water Development  
House Committee on Appropriations
- **The Honorable Marcy Kaptur**  
Ranking Member, Subcommittee Energy and Water Development  
House Committee on Appropriations
- **The Honorable Thad Cochran**  
Chairman, Senate Committee on Appropriations
- **The Honorable Barbara Mikulski**  
Vice Chairwoman, 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 Mr. Joseph Levin, Associate Director, External Coordination Team, Office of the Chief Financial Officer, (202) 586-3098.

Sincerely,



Ernest J. Moniz

## Executive Summary

The Office of Enterprise Assessments (EA or the Office) is responsible for implementing an Independent Oversight Program for safety and security within the U.S. Department of Energy (DOE) in accordance with DOE Order 227.1A, *Independent Oversight Program*. Effective oversight, including independent oversight, of DOE Federal and contractor operations is an integral element of the Department's responsibility as a self-regulating agency to provide assurance of its safety and security posture to its leadership, its workers, and the public. The purpose of this report is to provide to the Energy and Water Development Appropriations Committee, as requested in House Report 114-91, an overview of independent oversight activities, findings, and recommendations for Fiscal Year 2016.

In FY 2016, EA updated office-level protocols to reflect changes in the December 2015 revision of DOE Order 227.1A, and continued implementing staffing, training and other internal activities in support of meeting the Secretary's expectations for the Office. EA also continued to increase its communication with the Department's leadership in an effort to translate oversight assessment results into improved safety and security performance.

EA produced 105 reports documenting safety and security assessments conducted at 33 DOE (including the National Nuclear Security Administration [NNSA] and Power Marketing Administration) locations. EA did not identify any immediate or major risks that warranted shutdown of operations. Overall, safety and security performance across DOE demonstrated effective performance in many aspects, although a number of areas required continued attention and improvement.

Recommendations and areas for improvement provided by EA to DOE program managers and contractor organizations pertained to:

- Continued senior level management attention to safety and security performance,
- Line management attention to contractor oversight,
- Additional emphasis on risk assessment/analysis,
- Compliance with current safety and security requirements,
- Improvements to emergency management, cyber security, and insider threat programs.

This report contains a summary of the DOE Independent Oversight Program; a summary of FY 2016 independent oversight activities; a listing of independent oversight reports completed in FY 2016; and overall conclusions and recommendations.



# **OFFICE OF ENTERPRISE ASSESSMENTS**

## **FISCAL YEAR 2016**

### **INDEPENDENT OVERSIGHT ACTIVITIES OVERVIEW**

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## I. Legislative Language

This report responds to a request by the House Committee on Appropriations in House Report 114-91, which accompanied the Energy and Water Development Appropriations Bill, 2016. The report 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 Enterprise Assessments (EA) is responsible for implementing an Independent Oversight Program for safety and security 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 security, cyber security, 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 assessment activities. Independent oversight assessments are designed to complement, not replace, DOE line management's responsibility to monitor and oversee contractor safety and security programs and performance, manage contracts, and conduct self-assessments.

Safeguards and security, information security and cyber security independent oversight assessments gauge the effectiveness of security-related policies and programs throughout the Department. These assessment 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 also performed to ensure that corrective actions are effective and that complex-wide issues and generic weaknesses are appropriately addressed.

The safeguards and security and information security assessments generally evaluate the following functional areas, as described in EA protocols:

- Protection program management;
- Personnel security;
- Physical security systems;
- Nuclear material control and accountability;
- Classified matter protection and control; and
- Protective force operations.

Cyber security independent evaluate foundational cyber security 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 safety programs, integrated safety management performance, and emergency response capabilities to determine the status and provide feedback to line management for needed improvements. These assessments are performed to ensure adequate protection of the public, workers, and the environment, particularly at DOE sites with nuclear facilities or conducting nuclear or radiological activities.

EA assigns Site Leads that 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 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 as identified by the need for a DOE operational readiness review in accordance with DOE Order 425.1D Admin Chg 1, *Verification of Readiness to Start Up or Restart 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;
- 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's assessment processes are described in protocols available on the EA website<sup>1</sup>. The protocols provide a disciplined and consistent approach to monitoring, evaluating, and reporting the status of the implementation of safety and security programs within DOE. The process has 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 improve its products and the value it provides to DOE. EA managers are expected to solicit information from team members and line management personnel that can be used for process improvement.

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

## III. Activities and Findings

### A. Organizational Activities

In FY 2016, DOE Order 227.1A, *Independent Oversight Program*, was issued. The revision reflects the establishment of EA by the Secretary of Energy in May 2014, and the Secretary's expectations for the enterprise-wide internal management assessment function performed by EA. Office-level protocols were updated and communicated, as appropriate, in FY 2016 to address the changes in the Order.

EA also implemented and continued enhancing internal efforts designed to meet the Secretary's challenge for EA to identify emerging trends and/or systemic weaknesses and provide a more holistic analysis of the Department's safety and security performance. EA updated strategies and internal documentation such as functions, responsibilities and authorities documentation; operational plans; staffing and workforce plans; and employee training programs. EA also continued to increase its communication with the Department's leadership in an effort to translate oversight assessment results into improved safety and security performance.

The information contained in the following sections was derived from EA independent oversight assessment reports finalized in FY 2016. Some referenced reports pertain to assessments conducted in the later part of FY 2015 and published in FY 2016. Some assessments conducted in the later part of FY 2016 will not be referenced in this annual report as the associated reports will not be final until FY 2017.

### B. Safeguards and Security Assessments

EA completed 19 safeguards and security assessments at 14 DOE locations (seven of which possessed Category I quantities of special nuclear material [SNM<sup>1</sup>]) in FY 2016. The table at the end of this section identifies the specific locations subject to these assessments.

EA evaluated security performance at DOE sites by focusing on the adequacy of security programs protecting Category I quantities of SNM and other national security assets. This was accomplished by performing comprehensive multi-topic assessments (including force-on-force exercises), and limited notice performance testing.

EA assessments indicated that national security assets entrusted to the Department were adequately protected by protective forces that were generally well-equipped, well-trained, and

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<sup>1</sup> 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.

capable of performing their mission supported by defense-in-depth physical protection measures consistent with DOE tactical doctrine philosophies. In addition, many sites demonstrated the ability to maintain and generate accurate SNM inventories and perform emergency-related inventories. However, management attention was needed to address degrading security systems, maintaining risk analyses, and uniformly implementing updated security requirements. Specific findings, recommendations and areas for improvement are contained within the specific assessment reports.

### **C. Information Security Assessments**

EA completed 16 information security assessments at 13 DOE locations and entities, and two crosscut assessments in FY 2016. The table at the end of this section identifies the specific locations subject to these assessments.

EA information security assessments focused primarily on DOE programs involving the most sensitive classified matter, such as information associated with special access programs, top secret information, and sensitive compartmented information.

EA assessments indicated that most sensitive classified information was adequately safeguarded and the personnel who administer information protection programs were capable of performing their mission requirements. EA observed effective performance and positive trends with respect to executing important DOE information security requirements, such as annual inventories, technical surveillance countermeasure services, reproduction of classified matter, reporting of foreign travel, and counterintelligence briefings. However, a variety of classified matter protection and control requirements implementation issues were identified at numerous sites. Specific findings, recommendations and areas for improvement are contained within the specific assessment reports.

### **D. Cyber Security Assessments**

EA completed 15 cyber security assessments at 15 DOE locations and entities in FY 2016. The table at the end of this section identifies the specific locations subject to these assessments.

The EA cyber security assessment program focused on providing a prioritized-representative review of hundreds of classified and unclassified networks used throughout the Department. EA operated a cyber security testing network that was used to conduct announced penetration tests of DOE computer networks to evaluate external and internal threats; and unannounced penetration tests, conducted by a red team that assumed the role of an adversary, to identify weaknesses that could expose a network to a cyberattack.

EA assessments indicated that many DOE organizations generally complied with applicable DOE cyber security requirements; risk management was being implemented more frequently in place of compliance-based approaches; and that most sites were using technical tools supporting continuous monitoring of both unclassified and classified information systems.

Issues associated with addressing insider threats and risk management practices were identified. Specific findings, recommendations and areas for improvement are contained within the specific assessment reports.

#### **E. Nuclear Safety and Environment Assessments**

EA completed 39 nuclear safety assessments at 14 DOE locations (including nine at the Hanford Site and eight at the Waste Isolation Pilot Plant [WIPP]), and two crosscut assessments in FY 2016. The table at the end of this section identifies the specific locations subject to these assessments.

EA nuclear safety assessments focused on implementation of nuclear safety management programs, engineered safety systems, low level radioactive waste management, and DOE and contractor feedback and improvement processes. EA also evaluated certain aspects of nuclear facility projects, such as safety bases, design of safety systems, and construction quality of DOE's major design and construction projects. EA continued to expend high levels of effort on evaluating the recovery and corrective action implementation at WIPP; and conducted an assessment of the double shell tank ventilation safety systems at the Hanford Site tank farms. In addition, two crosscut assessment reports were published associated with the delegation of safety basis approval authority for hazard category 1, 2, and 3 nuclear facilities, and lessons learned from targeted reviews of the management of safety systems at DOE nuclear facilities.

EA assessments indicated that DOE nuclear facilities generally met applicable nuclear safety regulatory requirements. Technical safety requirements and many required safety management processes (e.g., maintenance, system engineer program) were well defined and mature at most nuclear facilities. EA assessments also identified issues regarding degraded fire protection equipment, attention to detail in design and disciplined operations, and certain aspects of feedback and improvement programs. Specific findings, recommendations and areas for improvement are contained within the specific assessment reports.

#### **F. Worker Safety and Health Assessments**

EA completed two worker safety and health assessments at two at DOE locations, and one crosscut assessment in FY 2016. The table at the end of this section identifies the specific locations subject to these assessments.

EA worker safety and health assessments focused on radiation protection programs and the work planning and control processes that are intended to protect workers from hazards that may be present at DOE facilities, including radioactive materials, beryllium, other hazardous chemicals, and physical hazards. EA also published a lessons learned assessment from targeted reviews of activity-level work planning and control systems throughout the Department.

EA assessments indicated that many aspects of DOE worker safety and health performance were effective for both the Federal and contractor workforces. Most sites adequately

implemented processes to protect workers, including programs for integrated safety management, radiation protection, and worker safety and health, and maintained provisions for specific DOE site hazards (e.g., explosives, biological agents). Assessments also identified multiple and diverse processes for workers to raise safety concerns or stop work. Issues were evident in some aspects of work planning and control and certain aspects of feedback and improvement programs. Specific findings, recommendations and areas for improvement are contained within the specific assessment reports.

#### **G. Emergency Management Assessments**

EA completed eight emergency management assessments at six DOE locations (including three at WIPP), and one crosscut assessment in FY 2016. The table at the end of this section identifies the specific locations subject to these assessments.

EA reviews of emergency management programs focused on the preparedness of DOE sites with hazardous materials for severe natural phenomena events that could impact multiple facilities and infrastructure, including efforts to prepare for events that are more severe than the facilities were originally designed to withstand, i.e., “beyond design basis” events. EA completed some assessments specific to emergency management program elements including technical planning basis, plans and procedures, exercises, training and drills, program administration and readiness assurance. EA also published a crosscut assessment report pertaining to lessons learned from emergency management assessments conducted in 2015.

EA assessments indicated that some aspects of emergency management were well established and generally effective at most DOE sites. Sites demonstrated various methods to communicate protective action information to workers and public authorities, maintained well-equipped emergency management centers, and generally met DOE requirements for maintaining fire and medical response teams. Also, EA assessments indicated that sites were making progress in preparing for “beyond design basis” events that could impact multiple facilities and infrastructure; some had performed major tests of capabilities for response to such events. Issues associated with technical planning bases and emergency response performance were identified. Specific findings, recommendations and areas for improvement are contained within the specific assessment reports.

## H. Summary of FY 2016 EA Independent Oversight Activities by DOE Location

	Safeguards & Security	Information Security	Cyber Security	Nuclear Safety & Environment	Worker Safety & Health	Emergency Management
<b>NATIONAL NUCLEAR SECURITY ADMIN.</b>						
NNSA Albuquerque Complex	✓		✓			
NNSA Headquarters		✓				
NNSA Production Office			✓			
Lawrence Livermore National Lab.		✓		✓		
Los Alamos National Lab.	✓	✓	✓	✓	✓	✓
Nevada Field Office		✓				
Nevada National Security Site	✓	✓	✓	✓	✓	✓
Office of Secure Transportation, NM	✓					
Office of Secure Transportation, TN	✓					
Pantex Plant	✓	✓	✓	✓		✓
Sandia National Labs., CA		✓				
Sandia National Labs., NM	✓			✓		✓
Y-12 National Security Complex	✓	✓		✓		
<b>SCIENCE and ENERGY</b>						
Brookhaven National Lab.		✓				
Idaho National Lab.	✓			✓		
Idaho Operations Office				✓		
Lawrence Berkeley National Lab.			✓			
Oak Ridge National Lab.	✓	✓				
Office of Scientific & Technical Info.			✓			
Pacific Northwest National Lab.	✓	✓				
Princeton Plasma Physics Lab.				✓		
SLAC National Accelerator Lab.				✓		
Thomas Jefferson National Accelerator Facility				✓		
<b>ENVIRONMENTAL MANAGEMENT</b>						
Hanford Site				✓		
Idaho Clean-up Project				✓		
Paducah Gaseous Diffusion Plant	✓		✓			
Portsmouth Gaseous Diffusion Plant	✓			✓		
Portsmouth / Paducah Project Office			✓			
Savannah River Site				✓		✓
Waste Isolation Pilot Plant	✓			✓		✓
West Valley Demonstration Project				✓		
<b>SOUTHWESTERN POWER ADMIN.</b>						
<b>WESTERN AREA POWER ADMIN.</b>						
Special Technologies Lab.		✓				
Office of the Chief Information Officer			✓			
Roll-Up and Crosscut Reports		✓		✓	✓	✓

## IV. Independent Oversight Reports Listing

This section contains a list of independent oversight assessment reports issued in FY 2016 in chronological order by discipline, except otherwise noted. The reports identified in the safeguards and security, information security, and cyber security sections contain classified and/or controlled unclassified information and, therefore, are not available to the public.

Also, titles of information security assessments conducted on special access programs are not identified in this report. The nuclear safety and environment, worker safety and health, and emergency management report titles are linked to the EA public website.

### A. Safeguards and Security

1. (U) Results of Limited-Notice Performance Tests at the Oak Ridge National Laboratory  
Conducted on July 21-22, 2015 [October 2, 2015]
2. (U) Office of Enterprise Assessments Safeguards and Security Inspection at the Pantex Plant [October 5, 2015]
3. (U) Office of Enterprise Assessments Inspection of the Material Control and Accountability Program at the Paducah Gaseous Diffusion Plant [November 6, 2015]
4. (U) Office of Enterprise Assessments Security Inspection at the National Nuclear Security Administration's, Office of Secure Transportation's, Agent Operations Eastern Command [December 7, 2015]
5. (U) Office of Enterprise Assessments Safeguards and Security Inspection at the Nevada Nuclear Security Site [December 21, 2015]
6. (U) Results of Limited-Notice Performance Tests at the Y-12 National Security Complex  
Conducted on November 3-4, 2015 [January 5, 2016]
7. (U) Results of the Limited-Scope Assessment of Protective Force Management and Capabilities at the Portsmouth Gaseous Diffusion Plant [January 8, 2016]
8. (U) Results of Limited-Notice-Performance Tests at Office of Secure Transportation Headquarters, Conducted on December 15-16, 2015 [January 19, 2016]
9. (U) Office of Enterprise Assessments Safeguards and Security Inspection of the Sandia National Laboratories, New Mexico [January 19, 2016]
10. (U) Results of Limited-Notice Performance Tests at Pacific Northwest National Laboratory  
Conducted on March 29, 2016 [April 25, 2016]
11. (U) Results of Limited-Notice Performance Tests at the Y-12 National Security Complex,  
Conducted on April 12-13, 2016 [May 13, 2016]
12. (U) Office of Enterprise Assessments Safeguards and Security Assessment at the Los Alamos National Laboratory [May 16, 2016]
13. (U) Results of Limited-Notice Performance Tests at the Idaho National Laboratory  
Conducted on April 26-27, 2016 [May 25, 2016]
14. (U) Office of Enterprise Assessments Review of the Material Control and Accountability

Program at the Portsmouth Gaseous Diffusion Plant [May 27, 2016]

15. (U) Results of Limited-Notice Performance Tests at the Oak Ridge National Laboratory Conducted on May 10-11, 2016 [June 10, 2016]
16. (U) Office of Enterprise Assessments Limited-Scope Assessment of Protective Force Management and Capabilities at the Paducah Gaseous Diffusion Plant [June 21, 2016]
17. (U) Office of Enterprise Assessments Focused Assessment of the Office of Secure Transportation's Issues Management Process [June 24, 2016]
18. (U) Office of Enterprise Assessments Limited-Scope Assessment of Protective Force Management and Capabilities at the Waste Isolation Pilot Plant [July 14, 2016]
19. (U) Office of Enterprise Assessments Security Assessment at the National Nuclear Security Administration's Albuquerque Complex [August 8, 2016]

## B. Information Security

1. (U) Office of Enterprise Assessments Security Inspection of the Brookhaven Counterintelligence Field Office Sensitive Compartmented Information Facility, October 19, 2015
2. (U) Office of Enterprise Assessments Security Inspection of the Los Alamos National Laboratory Field Intelligence Element, October 26, 2015
3. (U) Office of Enterprise Assessments Security Inspection of the Pacific Northwest National Laboratory Sensitive Compartmented Information Facility, December 10, 2015
4. (U) Office of Enterprise Assessments Security Assessment of the Oak Ridge National Laboratory Sensitive Compartmented Information Facilities, March 7, 2016
5. (U) Office of Enterprise Assessments Security Assessment of the Y-12 National Security Complex Sensitive Compartmented Information Facility, March 14, 2016
6. Independent Assessment of the Cyber Security Program at the Special Technologies Laboratory Field Intelligence Element, March 2016
7. (U) Office of Enterprise Assessments Security Assessment of the Special Technologies Laboratory Sensitive Compartmented Information Facility, April 25, 2016
8. Independent Assessment of the Cyber Security Program at the Pantex Plant Field Intelligence Element, April 2016
9. (U) Office of Enterprise Assessments Security Assessment of the Nevada National Security Site Remote Sensing Laboratory-Nellis Sensitive Compartmented Information Facility, August 25, 2016
10. (U) Office of Enterprise Assessments Security Assessment of the Nevada National Security Site Counterintelligence Sensitive Compartmented Information Facility, August 29, 2016
11. (U) Office of Enterprise Assessments Security Assessment of the Nevada Intelligence Center Sensitive Compartmented Information Facility, August 29, 2016
12. Independent Evaluation of the U.S. Department of Energy's Office of Intelligence and Counterintelligence Information Systems Security Program, September 2016
13. Independent Evaluation of the U.S. Department of Energy's Information Security Program

for National Security Systems, September 2016

### C. Cyber Security

1. Independent Review of the Cyber Security Program at the Los Alamos National Laboratory, October 2015
2. Independent Review of the Cyber Security Technical Implementation at the Office of Scientific and Technical Information, October 2015
3. Independent Review of the Cyber Security Technical Implementation at the Thomas Jefferson National Accelerator Facility, November 2015
4. Independent Review of the Cyber Security Program at the SLAC National Accelerator Laboratory, December 2015
5. Independent Review of the Cyber Security Program at the Paducah Gaseous Diffusion Plant, December 2015
6. Independent Review of the Cyber Security Program at the Portsmouth/Paducah Project Office, December 2015
7. Independent Assessment of the Classified Cyber Security Program at the Pantex Plant, April 2016
8. Independent Assessment of the Cyber Security Program of the Office of the Chief Financial Officer, May 2016
9. Independent Assessment of the Cyber Security Technical Implementation at the Lawrence Berkeley National Laboratory, May 2016
10. Independent Assessment of the Cyber Security Program at the Princeton Plasma Physics Laboratory, May 2016
11. Independent Assessment of the National Security Technologies, LLC Cyber Security Programs at the Nevada National Security Site, June 2016
12. Independent Assessment of the Centerra Group, LLC Unclassified Cyber Security Program at the Nevada National Security Site, July 2016
13. (U)Independent Cyber Security Assessment of the National Nuclear Security Administration Physical Access Control Systems, August 2016
14. Independent Assessment of the Cyber Security Program at the Southwestern Area Power Administration, August 2016
15. Independent Assessment of the Cyber Security Programs at the Western Area Power Administration Headquarters, Rocky Mountain Region, and Upper Great Plains Region, September 2016

### D. Nuclear Safety and Environment

1. [Enterprise Assessments Targeted Review, Management of the Safety-Related 480 Volt Diesel Bus Battery-Backed Power System of the Idaho National Laboratory Advanced Test Reactor –October 2015](#)

2. [Enterprise Assessments Review of the Nevada National Security Site Fire Protection Program – October 2015](#)
3. [Enterprise Assessments Targeted Review of the Fire Protection Program at Y-12 National Security Complex and Pantex Plant – October 2015](#)
4. [Enterprise Assessments Review of Mine Safety, Stabilization, and Habitability at the Waste Isolation Pilot Plant – October 2015](#)
5. [Enterprise Assessments Review of the Federal Oversight Process at the Idaho Site – October 2015](#)
6. [Enterprise Assessments Review of the Hanford Site Waste Treatment and Immobilization Plant Project Engineering Processes – October 2015](#)
7. [Enterprise Assessments Review of the Hanford Site Waste Treatment and Immobilization Plant Construction Quality – October 2015](#)
8. [Enterprise Assessments Review of the Los Alamos National Laboratory Transuranic Waste Facility 90% Draft Documented Safety Analysis and Technical Safety Requirements Submittals – EA-LANL-2015-07-07](#)
9. [Enterprise Assessments Review of Explosives Safety Program Implementation at the Pantex Plant – November 2015](#)
10. [Enterprise Assessments Review of Waste Isolation Pilot Plant Engineering and Procurement Processes – November 2015](#)
11. [Enterprise Assessments Operational Awareness Record for the Follow-Up Review of the Idaho Site Fire Protection Program as Implemented for the IMCL and the AMWTP, OAR # EA-ID-2015-10-22](#)
12. [Enterprise Assessments Review of the Hanford Site Waste Treatment and Immobilization Plant Construction Quality – December 2015](#)
13. [Enterprise Assessments Review of Radioactive Waste Management at the Portsmouth Gaseous Diffusion Plant – December 2015](#)
14. [Enterprise Assessments Targeted Review of the Safety System Management of the Secondary Confinement System and Power Distribution Safety System at the Y-12 National Security Complex Highly Enriched Uranium Materials Facility – December 2015](#)
15. [Enterprise Assessments Targeted Review of the Safety Basis at the Savannah River Site F-Area Central Laboratory Facility – January 2016](#)
16. [Enterprise Assessments Review of the Los Alamos National Laboratory Transuranic Waste Facility Construction Quality – January 2016](#)
17. [Enterprise Assessments Review of the Los Alamos National Laboratory Plutonium Facility Restart of Fissile Material Operations – January 2016](#)
18. [Enterprise Assessments Salt Waste Processing Facility Construction Quality and Fire Protection Systems Follow-up Review at the Savannah River Site – January 2016](#)
19. [Enterprise Assessments Operational Awareness Record for the Assessment of Construction at the Hanford Site K-West Annex Facility \(OAR EA-HANFORD-2015-09-09\)](#)
20. [Enterprise Assessments Operational Awareness Record of Observations of the Design and](#)

Modification Progress of the Waste Isolation Pilot Plant Underground Interim Ventilation System and Supplemental Ventilation System November 2015 (OAR # EA-WIPP-IVS/SVS-2015-11-15)

21. Enterprise Assessments Targeted Review of Nuclear Reactor Facility Operations at Sandia National Laboratories – March 2016
22. Enterprise Assessments Operational Awareness Record for the Review of the WTP Low-Activity Waste Facility Preliminary Documented Safety Analysis Change Package for the Effluent Management Facility (OAR # EA-WTP-LAW-2016-01-25)
23. Enterprise Assessments Review of the West Valley Demonstration Project Site Fire Protection Program – March 2016
24. Enterprise Assessments Review of the Delegation of Safety Basis Approval Authority for Hazard Category 1, 2, and 3 Nuclear Facilities – April 2016
25. Enterprise Assessments Assessment of Selected Conduct of Operations Processes at the Waste Isolation Pilot Plant – April 2016
26. Enterprise Assessments Assessment of Construction Quality and the Fire Protection program at the Hanford Site Waste Treatment and Immobilization Plant – April 2016
27. Enterprise Assessments Lessons Learned from Targeted Reviews of the Management of Safety Systems at U.S. Department of Energy Nuclear Facilities – April 2016
28. Enterprise Assessments Targeted Assessment of the Waste Treatment and Immobilization Plant High-Level Waste Facility Radioactive Liquid Waste Disposal System Safety Basis Change Package – May 2016
29. Enterprise Assessments Operational Awareness Record for the Assessment of the Lawrence Livermore National Laboratory Transuranic Waste Inventory Tracking System, March 14-18, 2016 (OAR EA-LLNL-2016-03-14)
30. Enterprise Assessments Assessment of Conduct of Maintenance at the Waste Isolation Pilot Plant – June 2016
31. Enterprise Assessments Assessment of Construction Quality at the Hanford Site Waste Treatment and Immobilization Plant – June 2016
32. Enterprise Assessments Assessment of the Y-12 National Security Complex Criticality Accident Alarm System – June 2016
33. Enterprise Assessments Assessment of the Waste Isolation Pilot Plant Fire Protection Program – July 2016
34. Enterprise Assessments Operational Awareness Record for the Assessment of Conduct of Operations in Control Rooms at the Savannah River Site, April 19-20, 2016 (OAR EA-SRS-2016-04-19)
35. Enterprise Assessments Operational Awareness Record for the Assessment of the Review of Past Findings at the Waste Isolation Pilot Plant, May 17 – 19, 2016 (OAR # EA-WIPP-2016-05-17)
36. Office of Enterprise Assessments Targeted Assessment of the Double Shell Tank Ventilation Systems at the Hanford Site Tank Farms – September 2016

37. [Office of Enterprise Assessments Assessment of the Unreviewed Safety Question Process as Implemented for the Integrated Waste Treatment Unit at the Idaho Site – September 2016](#)
38. [Office of Enterprise Assessments Assessment of Savannah River Site Radioactive Waste Disposal Facilities – September 2016](#)
39. [Office of Enterprise Assessments Assessment of Nuclear Reactor Facility Operations at Nevada National Security Site – September 2016](#)
40. [Enterprise Assessments Office of Enterprise Assessments Assessment of the Uranium Processing Facility Project Engineering Processes – September 2016](#)
41. [Office of Enterprise Assessments Operational Awareness Record for the Follow-up on Engineering Process Issues from the November 2015 Assessment Report at the Waste Isolation Pilot Plant, July 12-14, 2016 \(OAR-EA-WIPP-2016-07-12\)](#)

#### **E. Worker Safety and Health**

1. [Enterprise Assessments Targeted Review, Work Planning and Control at the Nevada National Security Site – October 2015](#)
2. [Office of Enterprise Assessments Targeted Review of Work Planning and Control and Biological Safety at the Los Alamos National Laboratory – December 2015](#)
3. [Enterprise Assessments Lessons Learned From Targeted Reviews of Activity-Level Work Planning and Control – March 2016](#)

#### **F. Emergency Management**

1. [Enterprise Assessments Review of the Sandia National Laboratories / New Mexico Emergency Management Exercise Program – November 2015](#)
2. [Enterprise Assessments Review of the Savannah River Site Emergency Management Exercise Program – November 2015](#)
3. [Enterprise Assessments Review of the Pantex Plant Emergency Management Exercise Program – November 2015](#)
4. [Enterprise Assessments Review of the Los Alamos National Laboratory September 2015 Functional Exercise of Selected Emergency Response Capabilities – January 2016](#)
5. [Enterprise Assessments Emergency Management Assessment of the Waste Isolation Pilot Plant – April 2016](#)
6. [Enterprise Assessments Lessons Learned from the 2015 Emergency Management Assessments – May 2016](#)
7. [Enterprise Assessments Operational Awareness Record for the Review of the Technical Planning Basis at the Waste Isolation Pilot Plant \(EA-WIPP-TPB-2016-04-05\)](#)
8. [Enterprise Assessments Assessment of the Nevada National Security Site 2016 Full-Scale Exercise DORSET-16 – July 2016](#)
9. [Enterprise Assessments Operational Awareness Record for the Review of the Full-Scale Exercise at the Waste Isolation Pilot Plant, June 21 – July 13, 2016 \(OAR-EA-WIPP-FSE-2016-21\)](#)

## V. Conclusions and Recommendations

In FY 2016, EA implemented the revised DOE independent oversight order and developed staffing, training, and other internal activities in support of meeting the Secretary's expectations for the Office. EA also continued to increase its communications with the Department's leadership in an effort to translate oversight assessment results into improved safety and security performance.

EA produced 105 reports documenting safety and security assessments conducted at 33 DOE (including the National Nuclear Security Administration and Power Marketing Administration) locations. EA did not identify any immediate or major risks that warranted shutdown of operations. Overall, safety and security performance across DOE demonstrated effective performance in many aspects, although a number of areas required continued attention and improvement.

Recommendations and areas for improvement provided by EA to DOE program managers and contractor organizations pertained to:

- Continued senior level management attention to safety and security performance,
- Line management attention to contractor oversight,
- Additional emphasis on risk assessment/analysis,
- Compliance with current safety and security requirements,
- Improvements to emergency management, cyber security, and insider threat programs.