



The Secretary of Energy  
Washington, DC 20585

June 28, 2006

The Honorable A. J. Eggenberger  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, NW, Suite 700  
Washington, DC 20004-2901

Dear Mr. Chairman:

We have reviewed your March 3, 2006, letter regarding implementation of Department of Energy Order and Policy 226.1. We continue to work toward implementation of the safety components of these directives by our target implementation date of September 2006. The approach that our program line managers will use to complete this implementation process is enclosed. In addition, please find enclosed responses to your detailed comments on Savannah River's implementation. I am having Environmental Management provide enhanced oversight to assure all of the items identified in your letter are appropriately addressed.

The responsible line managers will be available, at your request, to brief you in more detail on progress of our implementation efforts. If you have any questions or comments, please contact Ms. Patrice Bubar, our overall implementation lead, at 301-903-8008.

Sincerely,

A handwritten signature in black ink that reads "Samuel W. Bodman".

Samuel W. Bodman

Enclosure





Department of Energy  
National Nuclear Security Administration  
Washington, DC 20585



May 23, 2006

MEMORANDUM FOR DISTRIBUTION

FROM:

Thomas P. D'Agostino  
Deputy Administrator  
for Defense Programs

SUBJECT:

**ACTION:** STATUS ON IMPLEMENTING DOE POLICY 226.1, DEPARTMENT OF ENERGY OVERSIGHT POLICY, AND DOE ORDER 226.1, IMPLEMENTATION OF DEPARTMENT OF ENERGY OVERSIGHT

REF:

March 3, 2006, letter to the Secretary of Energy from the Defense Nuclear Facilities Safety Board

The Defense Nuclear Facilities Safety Board (Board) sent the Secretary a letter requesting that DOE provide to the Board its plans for implementing the subject DOE policy and order. I believe that through initiatives such as the development of the National Nuclear Security Administration (NNSA) Line Oversight (LO) Draft Policy interface with the NNSA Contractor Assurance System (CAS) efforts begun in late 2002 and the Quality Assurance Roadmap effort, NNSA has a good foundation for actions needed to come into compliance with meeting the intent of many of the requirements contained in DOE Order 226.1. The Federal oversight program and processes, and in particular the Headquarters piece, has not been specifically evaluated against DOE Order 226.1.

The due date for implementing the oversight policy and order is September 15, 2006. NA-3.6 has been designated as the action office for this response and will work with Headquarters and Field activities to prepare a consolidated NNSA response based on input received from your organizations. Please provide your plans for achieving this milestone to NA-3.6 by June 20, 2006, by identifying your gaps and determining the implementing actions and schedules to fill these gaps. Field Elements should provide their plans to NA-3.6 through the Deputy Administrator for Defense Programs.

Your approach is expected to take advantage of NNSA oversight initiatives as well as be consistent with the fundamental principles of strengthening line accountability, avoiding micro-management, being less risk averse, and as federal employees determining the "what" and expecting our contractors to decide the "how."

The response to the Board will be limited to the information under the purview of the Board. The information requested from this review will not only answer the Board letter,



but also assist NNSA in determining what requirements in Order 226.1 should be reconsidered as part of the ongoing review of commitments made under Recommendation 2004-1.

Your cooperation is greatly appreciated. If you have any questions, please contact Ted Wyka at (202) 586-3519.

**Distribution:**

Deputy Administrator for Defense Nuclear Nonproliferation  
Associate Administrator for Emergency Operations  
Associate Administrator for Infrastructure and Environment  
Associate Administrator for Management and Administration  
Associate Administrator for Defense Nuclear Security  
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Manager, Y-12 Site Office  
Manager, Sandia Site Office  
Manager, Nevada Site Office  
Manager, Savannah River Site Office  
Manager, Kansas City Site Office  
Director, NNSA Service Center



## Department of Energy

Washington, DC 20585

May 1, 2006

### MEMORANDUM FOR DISTRIBUTION

FROM:

DR. INÈS R. TRIAY *Inès Triay*  
CHIEF OPERATING OFFICER FOR  
ENVIRONMENTAL MANAGEMENT

THROUGH:

CHARLES E. ANDERSON *Charles E. Anderson*  
PRINCIPAL DEPUTY ASSISTANT SECRETARY FOR  
ENVIRONMENTAL MANAGEMENT

SUBJECT:

Department of Energy (DOE) Order 226.1,  
Implementation of Oversight Policy

The DOE Order 226.1 was approved on September 15, 2005. This Order is required to be implemented at all DOE sites by September 15, 2006. DOE Order 226.1 is broad and covers oversight in five areas: Environment, Safety and Health, Safeguards and Security, Cyber Security, Emergency Management and Business Operations. EM is required to implement all requirements by September 15, 2006. The safety programs already have many of the required oversight elements from the Order. Accordingly, the challenge is to apply the requirements to other areas specified by the Order and to improve the formality and discipline of all, including safety oversight.

#### Teams:

In order to provide clarification and guidance on specific issues, EM will establish teams for the five areas covered by the Order. The teams will be comprised of a Headquarters (HQ) lead and a field subject matter expert. The teams will be responsible for reviewing the Gap Analysis and Implementation Plans, as well as providing clarifications where needed. The following are the HQ leads in moving EM to full implementation of the Order. The names of the field subject matter experts will be provided at a later date:

1. Environment, Safety and Health – Terry Tracy
2. Safeguards and Security – Ray Lopiccolo
3. Cyber Security – Dan Pitton
4. Emergency Management – Timothy Harms
5. Business Operations – Jay Rhoderick



Actions:

The actions necessary to ensure EM meets the requirement to implement DOE Order 226.1 by September 15, 2006, are identified below.

1. Formal Gap Analysis - A formal gap analysis from each EM element, including HQ is required. The gap analysis must identify the requirement, indicate whether it is currently met, and identify how gaps will be closed.

Due Date to EM-3: June 1, 2006

2. Implementation Plan– Identify the responsible manager, deliverable, expected completion date and any outside assistance required necessary to implement by September 15, 2006.

Due Date to EM-3: June 1, 2006

A sample requirements document that can be used to complete the Gap Analysis is attached. The second attachment provides the CRADS utilized by the Office of Security and Safety Performance Assurance (SP) to review implementation at the Savannah River Site. It provides a rigorous standard to identify compliance with the Order requirements. Several sites have indicated that they have already completed their Gap Analysis and developed an Implementation Plan. If those actions were carried out utilizing a comparably rigorous approach, EM elements are not required to repeat the process. I encourage those elements that have not yet undertaken the task to consider utilizing the attachments for these tasks.

Part of the DOE response to the DNFSB recommendation 2004-1 touched on several of the areas that are covered by this Order. Implementation actions for the Order may duplicate the actions from 2004-1. Where possible, actions already committed for 2004-1 should be credited towards implementation of the Order.

Application:

Field Offices – This memorandum applies to all EM field sites, except as noted below. The Rocky Flats Office is exempt. Implementation at the Ohio field office is limited to the West Valley Site.

Oak Ridge and Idaho – The direct EM program work at these two sites are carried out under the oversight of EM line managers. However, Safeguards and Security, Cyber Security and Emergency Management operations are normally site wide programs that would be overseen by the lead Program Secretarial Office (PSO)

for those sites. In that case, both Oak Ridge and Idaho need only develop the Gap Analysis and Implementation Plan for the areas of Environment, Safety and Health and Business Operations in order to meet the requirement of this direction.

#### Small Sites:

EM will meet its requirement to provide oversight of the small sites utilizing a graded approach. The resources available at the small sites may not be adequate to develop these plans. I am directing the Consolidated Business Center (CBC) to review the EM operations at the small sites and recommend a path forward for development of an oversight program that meets the intent of the Order. Where EM is a tenant at these sites and an agreement has been reached regarding services and oversight, the plan should reflect those agreements. The CBC should work with the EM small sites to identify the actions and resources necessary for implementation of an oversight program. Actual implementation of the oversight plans for the small sites will be determined after the CBC has presented its recommendation to the EM Office of Site Support and Small Projects.

#### EM Headquarters:

HQ elements are required to develop Gap Analyses and Implementation Plans. These actions should address the oversight line management requirements of the Order for the PSO and the self assessment actions for the five areas covered by the Order. Thus, HQ will need implementing procedures and programs similar to the field as well as actions that provide oversight of the field. Each Deputy Assistant Secretary (DAS) is responsible for conducting the Gap Analysis and Implementation Plan for their respective areas. An oversight Standard Operating Policy and Procedure (SOPP) is in development. Each DAS may elect to develop the oversight procedures independent of the oversight SOPP, but those procedures must meet the requirements of the Order. In addition, the Gap Analysis and Implementation Plans for HQ will be reviewed by the five area teams.

#### Definitions:

Several of the requirements in the Order are broad and without an approved Manual can lead to interpretations that do not meet expectations. The following explanations are provided for EM elements until an approved Manual is available:

Qualifications - A requirement is identified in sections 5b (6) and 5d (2) specifying, the development of appropriate qualification standards for personnel with oversight responsibilities. This requirement applies to all five of the areas identified in the Policy:

The term *qualification standards* is interpreted to be a formal requirement. The expectation is that the requirements for personnel conducting oversight will be identified, training will be provided, a process to ensure

adequate knowledge will be applied, and the qualification will be documented. In short, the term “standard” requires a documented process.

Business Operations – The Policy identified this as one of the five areas requiring formal oversight but does not define the term. EM will work with SP to provide a definition of the term. In the interim, the following guidance is provided:

The term *Business Operations* refers to work performed by the EM program in direct performance of its mission. EM carries out its mission through the development and execution of projects. EM will apply oversight of *Business Operations* by incorporating project management of its program work into the oversight framework required by the DOE Oversight Order. Thus, Project Management implementing mechanisms must incorporate the methods required in the Order (such as assessments, qualification standards and feedback and improvement) and must include the formal processes and requirements of the Order.

ES&H – Protection of the environment, as well as the safety and health of workers and the public from damage or injury due to chemical, radiological, physical, and biological agents and events resulting from DOE operations. In some contexts, this includes the quality of work to protect not only safety of the environment, workers, and the public, but also the achievement of mission goals.

Safeguards and Security – Systems and processes for the protection of nuclear and radiological materials from loss or theft.

Emergency Management – Systems and processes for managing the protection of workers, the public, and property when an unexpected event has occurred that resulted from or adversely affected the operation of DOE facilities.

Cyber Security – Protection of information technology (IT) investments (e.g. information systems and telecommunications systems) and the information within or passing through them from unauthorized access, use, disclosure, disruption, modification, or destruction in order to provide Integrity, Confidentiality and Availability.

The programs that implement these requirements are expected to be in place by September 15, 2006. The contractor assurance system program description needs to be provided to HQ by August 1, 2006. The approval of those descriptions was delegated to the field and is expected to remain there.

Implementation of the oversight Order will be challenging. Significant resources will be required to meet this schedule. Issues that you believe will prevent

compliance by September 15, 2006, should be identified to me immediately in writing. Overall implementation questions can be addressed to me at (202) 586-0738 or Terry Tracy of my staff, at (301) 903-2173. For questions specific to one of the five areas, please contact the identified HQ lead.

#### Attachments

cc:

B. Scott, NA-50

R. Orbach, SC-1



Distribution

William Taylor, Deputy Manager, Ohio Field Office (OH)  
Keith A. Klein, Manager, Richland Operations (RL)  
Roy J. Schepens, Manager, Office of River Protection (ORP)  
Frazer R. Lockhart, Manager, Rocky Flats Project Office (RFPO)  
Jeffrey M. Allison, Manager, Savannah River Operations Office (SR)  
David C. Moody, Manager, Carlsbad Field Office, (CBFO)  
William E. Murphie, Manager, Portsmouth/Paducah Project Office (PPPO)  
Jack Craig, Manager, Consolidated Business Center (CBC)  
Cynthia Anderson, Acting Director, Western Sites Project Office (WSPO)  
Rodrigo V. Rimando, Jr. Brookhaven Project Director  
Richard L. Dailey, California Sites Project Director  
Dae Y. Chung, Acting Deputy Assistant Secretary for Integrated Safety  
Management and Operations Oversight, EM-3.2  
Frank Marcinowski, Deputy Assistant Secretary for Logistics and Waste  
Disposition Enhancements, EM-10  
Mark A. Gilberson, Deputy Assistant Secretary for Environmental Cleanup and  
Acceleration, EM-20  
Mark W. Frei, Deputy Assistant Secretary for Business Operations, EM-30  
James J. Fiore, Acting Deputy Assistant Secretary for Performance Intelligence and  
Improvement, EM-40  
Jack Surash, Deputy Assistant Secretary, EM

#	Sect.	O 226.1 Requirements & Responsibilities	ORGS	LEVEL
1	4(b)	An oversight policy committee must be establish to ensure ownership of this Order.	MA	HQ
2	5(c)	Offices of Primary Interest will establish a process to resolve and issue official interpretations of requirements contained in directives under their responsibility.	MA	HQ
3	5(e)	The oversight policy committee is ultimately responsible for the ownership of DOE O 226.1. The oversight policy committee is chaired by the Office of Management, Budget and Evaluation and is comprised of a policy representative from the Office of Security and Safety Performance Assurance; Office of the Chief Information Officer; the National Nuclear Security Administration; and Office of Environment, Safety and Health.	MA	HQ
4	5(e)	(1) Coordinates any changes, revisions, or directives developed in support of this Order with the full participation of the oversight policy committee. (NOTE: This does not diminish responsibility from any of the individual members of the oversight policy committee; for example, the development of a safety-specific manual would be the responsibility of the Office of Environment, Safety and Health.)	MA	HQ
5	5(e)	(2) Coordinates any requested exemptions to or interpretations of this Order with all other affected DOE elements to properly resolve the exemption/interpretation request.	MA	HQ
6	4(c)	Where determined to be necessary, additional directives must be developed to effectively implement Attachments 2, 3, and 4 (e.g., DOE Safety Oversight Manual) to this Order.	MA, EH	HQ
7	4(d)	Deficiencies in DOE requirements will be brought to the attention of the responsible DOE Headquarters policy organization (the Office of Primary Interest) for resolution.	ALL (for identification); MA (for resolution)	HQ
8	4(d)	Deficiencies in site-specific requirement will be brought to the attention of the contracting officer.	EM, NNSA	FO
9	4(e)(1)	All applicable DOE organizations must establish and implement an effective oversight program to include the following: A comprehensive and rigorous assurance system at all sites implemented by the contractor and Federal organizations that manage or operate DOE sites, facilities, or operations.	EM, NNSA	FO
10	4(e)(2)	DOE field element line management oversight processes, such as inspections, reviews, surveillances, surveys, operational awareness, and walkthroughs that evaluate programs and management systems and the effectiveness of the site assurance system.	EM, NNSA	FO
11	4(e)(3)	DOE Headquarters line management oversight processes that are focused on the DOE field elements and also look at contractor activities to evaluate the implementation and effectiveness of field element line management oversight.	EM, NNSA	HQ
12	4(e)(4)	Independent oversight processes that are performed by DOE organizations that do not have line management responsibility for the management of the activity and thus provide an independent perspective for senior management on the effectiveness of programs and activities at all organizational levels (Headquarters, field, and contractor).	SSA	HQ

#	Sect.	O 226.1 Requirements & Responsibilities	ORGS	LEVEL
13	4(e)(5)	These four essential elements of an oversight program must be designed to work as a comprehensive system to provide assurance that DOE activities are safe and secure.	EM, NNSA	HQ
14	4(e)(6)	Oversight of high consequence activities, such as high hazard nuclear operations, require additional rigor, such as instituting Central Technical Authorities for core nuclear safety functions.	EM, NNSA	HQ
15	4(f)	For activities and programs at Government-owned and Government-operated facilities and sites that are not under the cognizance of a DOE field organization, DOE Headquarters program offices will establish and implement comparably effective oversight processes consistent with requirements for the contractor assurance system	ESE ? (Outside of Board's scope)	HQ
16	5(a)	The Administrator, NNSA, and the Under Secretary for Energy, Science, and Environment will establish a Central Technical Authority that will maintain operational awareness, especially with respect to complex, high-hazard nuclear operations, for ensuring that the Department's safety policies and requirements are adequate and properly implemented.	EM, NNSA	HQ
17	5(b)	Administrator, NNSA; Cognizant Secretarial Officers; DOE and NNSA Procurement Executives; and Program Secretarial Officers: (1) Establish oversight programs and processes to implement DOE P 226.1 and this Order at Headquarters and across field organizations.	EM, NNSA	HQ
18	5(b)	(2) Design and implement line management oversight programs for DOE Headquarters and field organizations consistent with Attachment 3 or comparably effective criteria established by the responsible program office.	EM, NNSA	HQ
19	5(b)	(3) Revise program office specific policies and directives to conform to DOE P 226.1 and this Order within one year after the effective date of this Order.	EM, NNSA	HQ
20	5(b)	(4) Provide unfettered access to information and facilities to conduct an effective oversight program, consistent with applicable laws and requirements.	EM, NNSA	HQ
21	5(b)	(5) Require that DOE Headquarters, field offices, and sites regularly assess the effectiveness of DOE-wide lessons learned processes to improve all work processes (e.g., safety, security, and business operations) and associated management systems.	EM, NNSA	HQ
22	5(b)	(6) Establish and maintain appropriate qualification standards for personnel with Headquarters and field oversight responsibilities and clear, unambiguous lines of authority and responsibility for oversight.	EM, NNSA	HQ
23	5(b)	(7) Establish and implement a comparably effective site assurance system consistent with the provisions of Attachments 2 and 3 for activities and programs at Government-owned and Government-operated facilities/activities and DOE sites that are not under the cognizance of a DOE field organization.	EM, NNSA	HQ
24	5(b)	(8) Initially approve and thereafter annually review and approve integrated safety management system description updates, unless approval authority is delegated to the DOE field element.	EM, NNSA	HQ
25	5(b)	(9) Perform periodic reviews of contractor assurance system programs and processes for consistency across the complex and ensure that they reflect industry best practices.	EM, NNSA	HQ

#	Sect.	O 226.1 Requirements & Responsibilities	ORGS	LEVEL
26	5(b)	(10) Initially approve and thereafter annually review and approve contractor assurance system program descriptions updates unless approval authority is delegated to the DOE field element.	EM, NNSA	HQ
27	5(d)	Heads of Field Organizations/Heads of Contracting Activities: (1) Incorporate the CRD (Attachment 2) into all DOE contracts pursuant to 48 CFR 970.5204-2, "Laws, regulations, and DOE directives," by notifying contracting officers of affected contracts.	EM, NNSA	FO
28	5(d)	(2) Maintain appropriate qualification standards for personnel with oversight responsibilities and clear, unambiguous lines of authority and responsibility for oversight.	EM, NNSA	FO
29	5(d)	(3) Establish and implement line management oversight programs and processes consistent with the requirements of this Order, to include Attachment 3, or comparably effective criteria established by the responsible program office.	EM, NNSA	FO
30	5(d)	(4) Provide unfettered access to information and facilities to conduct an effective oversight program, consistent with applicable laws and requirements.	EM, NNSA	FO
31	5(d)	(5) Establish and implement effective DOE line management oversight processes consistent with the provisions of Attachments 2 and 3 for Government-owned and Government-operated facilities and DOE sites under the field organizations' cognizance.	EM, NNSA	FO
32	5(d)	(6) Review, concur, and forward contractor assurance system program descriptions for Headquarters line management approval. If approval authority is delegated by the Headquarters organization, approve contractor assurance system program descriptions. If existing processes (e.g., quality assurance program or integrated safety management description documents) provide adequate descriptions of the contractor assurance programs, or if such processes can be modified to provide adequate descriptions, submittals under these processes can be used to meet this requirement.	EM, NNSA	FO
33	5(d)	(7) Revise field element policies and implementing procedures and require that site-specific policies and implementing procedures conform to DOE P 226.1 during the established review and revision cycle but no later than one year after the effective date of this Order; and ensure they are consistent with this Order, to include Attachments 2 and 3, or comparably effective criteria established by the responsible program office.	EM, NNSA	FO
34	5(d)	(8) Use the results of DOE line and independent oversight and contractor assurance systems to make informed decisions about corrective actions and the acceptability of risks and to improve the effectiveness and efficiency of programs and site operations.	EM, NNSA	FO
35	5(f)	Secretarial Staff Offices shall: (1) DOE organizations performing independent oversight under the direct authority of the Secretary of Energy, such as the Office of Security and Safety Performance Assurance, shall conduct independent oversight processes in accordance with the requirements of this Order for independent oversight (Attachment 4) or comparably effective criteria established by the director of the independent oversight program.	SSA, EH, MA, ?	HQ

#	Sect.	O 226.1 Requirements & Responsibilities	ORGS	LEVEL
36	5(f)	(2) DOE policy organizations will revise or develop and maintain the necessary directives to effectively implement this order. For example, the Office of Environment, Safety and Health will develop and maintain DOE environment, safety and health policies, regulations, technical standards, and other directives, and is responsible for enforcement under the Price-Anderson Amendments Act. Additionally, the Office of Environment, Safety and Health will develop and maintain a DOE Safety Oversight Manual.	SSA, EH, MA, ?	HQ
37	5(g)	The Procurement Executives of DOE and NNSA shall implement the pertinent requirements of the CRD of this Order in the Department of Energy Acquisition Regulation or other appropriate procurement directive, including the prescription of any necessary contract clause(s) for those contracts specified in paragraph 3b(5) above.	EM, NNSA	FO
38	5(h)	Contracting Officers , once notified, must incorporate the CRD without modification into their contracts as soon as practicable but no later than 6 months after the effective date of this Order. [by 3/15/06]	EM, NNSA	FO
39	Attach 2(a)	The contractor must comply with the following requirements: A comprehensive and integrated contractor assurance system [CRD FOOTNOTE 1] must be established to identify and address program and performance deficiencies, opportunities for improvement, provide the means and requirements to report deficiencies to the responsible managers and authorities, establish and effectively implement corrective and preventive actions, and share lessons learned across all aspects of operations.	EM, NNSA	CON
40	Attach 2(b)	The contractor assurance system will address the criteria described in Appendix A to this CRD, or other comparably effective criteria established by responsible DOE line management, for activities such as the following:	EM, NNSA	CON
41	Attach 2(b)	(1) assessments (including self-assessments or management assessments, operational awareness or management walk-throughs, quality assurance assessments, and internal independent assessments),	EM, NNSA	CON
42	Attach 2(b)	(2) event reporting (including reporting, analyzing, trending operational events, accidents and injuries),	EM, NNSA	CON
43	Attach 2(b)	(3) worker feedback mechanisms,	EM, NNSA	CON
44	Attach 2(b)	(4) issues management (including analysis of causes, identification of corrective actions, corrective action tracking, monitoring and closure, and verification of effectiveness),	EM, NNSA	CON
45	Attach 2(b)	(5) lessons learned, and	EM, NNSA	CON
46	Attach 2(b)	(6) performance measures.	EM, NNSA	CON

#	Sect.	O 226.1 Requirements & Responsibilities	ORGS	LEVEL
47	Attach 2 2(c)	The contractor must submit, for DOE annual review and approval, detailed contractor assurance system program descriptions to address the following aspects of operations: (1) environment, safety, and health; (2) safeguards and security; (3) emergency management; (4) cyber security; and (5) business practices. If existing processes (e.g., quality assurance program or integrated safety management description documents) provide adequate descriptions of the contractor assurance system, or if such processes can be modified to provide adequate descriptions, submittals under these processes can be used to meet this requirement.	EM, NNSA	CON
48	Attach 2 2(d)	The contractor assurance system must include self-evaluations of compliance with applicable laws, regulations, national standards, DOE directives, DOE-approved plans and program documents (e.g., security plans, authorization basis documents, and quality assurance program), site-specific procedures/manuals, criteria review and approach documents, contractual performance objectives, and other contractually mandated requirements.	EM, NNSA	CON
49	Attach 2 2(e)	Contractor personnel who manage and perform assurance functions must possess experience, knowledge, skills, and abilities commensurate with their responsibilities.	EM, NNSA	CON
50	Attach 2 2(f)	The contractor must establish and maintain appropriate qualification standards for personnel with oversight responsibilities.	EM, NNSA	CON
51	Attach 2 2(g)	The contractor must establish and clear, unambiguous lines of authority and responsibility for personnel performing oversight.	EM, NNSA	CON
52	Attach 2 2(h)	The contractor must provide unfettered access to information and facilities to conduct an effective oversight program, consistent with applicable laws and requirements.	EM, NNSA	CON
53	Attach 2 2(i)	Oversight and assurance processes may identify DOE directives or site-specific requirements that conflict, are unclear, or are incomplete. Deficiencies in DOE requirements must be brought to the attention of the contracting officer and forwarded to the responsible DOE Headquarters policy organization (the Office of Primary Interest) for resolution.	EM, NNSA	CON
54	Attach 2 Appendix A 1(a)	DOE contractors must establish a comprehensive and integrated contractor assurance system in accordance with quality assurance requirements (as stated in 10 CFR Part 830, Subpart A, or other applicable regulations), applicable DOE directives, and contract terms and conditions. A contractor's assurance processes must encompass all of the various activities designed to—(1) identify deficiencies and opportunities for improvement, (2) report deficiencies to the responsible managers and authorities, and (3) implement effective corrective actions.	EM, NNSA	CON
55	Attach 2 Appendix A 1(b)	Assurance activities must encompass environment, safety, and health; safeguards and security; cyber security; emergency management; and business operations and must include— (1) assessments (including self-assessments, management assessments, and internal independent assessments as defined by laws, regulations, and DOE directives such as quality assurance program requirements) and other structured operational awareness activities (e.g., management walk-throughs);	EM, NNSA	CON

#	Sect.	O 226.1 Requirements & Responsibilities	ORGS	LEVEL
56	Attach 2 Appendix A 1(b)	(2) incident/event reporting processes, including accident investigations;	EM, NNSA	CON
57	Attach 2 Appendix A 1(b)	(3) worker feedback mechanisms;	EM, NNSA	CON
58	Attach 2 Appendix A 1(b)	(4) issues management, including causal analysis, identification of corrective actions and recurrence controls, corrective action tracking and monitoring, closure of corrective actions and verification of effectiveness, and trend analysis;	EM, NNSA	CON
59	Attach 2 Appendix A 1(b)	(5) lessons-learned programs; and	EM, NNSA	CON
60	Attach 2 Appendix A 1(b)	(6) performance indicators/measures.	EM, NNSA	CON
61	Attach 2 Appendix A 1(c)	Contractor assurance system data must be documented and readily available to DOE. Results of assurance processes must be periodically analyzed, compiled, and reported to DOE in support of the formal contract evaluation.	EM, NNSA	CON
62	Attach 2 Appendix A 1(d)	Contractors will establish processes for corporate audits, third-party certifications, or external reviews by experts in designing and implementing the contractor's assurance system.	EM, NNSA	CON
63	Attach 2 Appendix A 1(e)	Program effectiveness can be certified by third parties to provide management with assurance that program elements meet national standards and reviewers' expectations. Although third-party certification can complement internal assurance systems, it is not a substitute for rigorous internal assurance system processes.	EM, NNSA	CON
64	Attach 2 Appendix A 1(f)	Contractors must monitor and evaluate all work performed under their contracts, including the work of subcontractors.	EM, NNSA	CON

#	Sect.	O 226.1 Requirements & Responsibilities	ORGS	LEVEL
65	Attach 2 Appendix A 2	<p><u>ASSESSMENTS</u>. A rigorous and credible assessment program is the cornerstone of effective, efficient management of programs such as environment, safety, and health; safeguards and security; cyber security; emergency management; and business processes.</p> <p>Contractors will be responsible for developing, implementing, and performing comprehensive assessments of all facilities, systems, and organizational elements, including subcontractors, on a recurring basis. The scope and frequency of assessments must be specified in site plans and program documents (e.g., the quality assurance program) and must meet or exceed the requirements of applicable DOE directives. External peers or subject matter experts may be utilized to support assessment activities.</p>	EM, NNSA	CON
66	Attach 2 Appendix A 2(a)	<p><u>Self-Assessment</u> is used to evaluate performance at all levels periodically and to determine the effectiveness of policies, requirements, and standards and the implementation status.</p>	EM, NNSA	CON
67	Attach 2 Appendix A 2(a)	<p>(1) Management self-assessments (also called management assessments) are performed by contractor management, and are developed (scope and review criteria) based on the nature of the facility/activity being assessed and the hazards and risks to be controlled.</p>	EM, NNSA	CON
68	Attach 2 Appendix A 2(a)	<p>(2) Self-assessments, which focus on hands-on work and the implementation of administrative processes, involve workers, supervisors, and managers to encourage identification and resolution of deficiencies at the lowest level practicable (e.g., workplace inspections and post-job reviews).</p>	EM, NNSA	CON
69	Attach 2 Appendix A 2(a)	<p>(3) Support organizations will perform self-assessments of their performance and the adequacy of their processes.</p>	EM, NNSA	CON
70	Attach 2 Appendix A 2(a)	<p>(4) Contractor, at all levels, will assess the implementation and adequacy of their processes, including analysis of the collective results of lower-level self-assessments.</p>	EM, NNSA	CON
71	Attach 2 Appendix A 2(a)	<p>(5) Self-assessment results will be documented commensurate with the significance of and risks associated with activities being evaluated. Deficiencies will be accurately described and documented for evaluation and correction using formal issues management processes.</p>	EM, NNSA	CON
72	Attach 2 Appendix A 2(b)	<p><u>Internal independent assessments</u> will be performed by contractor organizations or personnel that have authority and independence from line management, to support unbiased evaluations.</p>	EM, NNSA	CON
73	Attach 2 Appendix A 2(b)	<p>(1) The assessments will be formally planned and scheduled based on the risk, hazards, and the complexity of the processes and activities to be evaluated.</p>	EM, NNSA	CON



#	Sect.	O 226.1 Requirements & Responsibilities	ORGS	LEVEL
74	Attach 2 Appendix A 2(b)	(2) Independent evaluators will be appropriately trained and qualified and have knowledge of the areas assessed.	EM, NNSA	CON
75	Attach 2 Appendix A 2(b)	(3) Reviewers will be dedicated contractor staff, members of external organizations, or both.	EM, NNSA	CON
76	Attach 2 Appendix A 2(b)	(4) Although independent assessments are applied to individual activities and processes, they will typically focus on entire facilities or projects, and programs and management processes that are used by multiple organizations.	EM, NNSA	CON
77	Attach 2 Appendix A 2(b)	(5) Internal independent assessments will concentrate on performance and observation of work activities and the results of process implementation.	EM, NNSA	CON
78	Attach 2 Appendix A 3	<u>EVENT REPORTING</u> . Formal programs will be established and effectively implemented to identify issues and report, analyze, and address operational events, accidents, and injuries.	EM, NNSA	CON
79	Attach 2 Appendix A 3(a)	Reportable occurrences that meet occurrence reporting and processing system thresholds and associated corrective actions will be evaluated, documented, and reported as required by the DOE directive.	EM, NNSA	CON
80	Attach 2 Appendix A 3(b)	For activities covered by the Price-Anderson Amendments Act, nuclear and worker safety and health issues (e.g., noncompliance) meeting DOE reporting thresholds should be self-reported through the DOE-wide Noncompliance Tracking System to mitigate the severity level of the violation and potential financial penalties.	EM, NNSA	CON
81	Attach 2 Appendix A 3(c)	Trending analysis of events, accidents, and injuries is performed in accordance with structured/formal processes.	EM, NNSA	CON
82	Attach 2 Appendix A 4	<u>WORKER FEEDBACK</u> . In addition to structured assessments, DOE contractors will establish and implement processes to solicit feedback from workers and work activities. Common feedback mechanisms are described in site plans/program documents and include the following: (a) employee concerns programs, (b) telephone or intranet "hotline" processes for reporting concerns or questions, (c) pre-job briefs, (d) job hazard walk-downs by workers prior to work, (e) post-job reviews, (f) employee suggestion forms, (g) safety meetings, (h) employee participation in committees and working groups, and (i) labor organization input.	EM, NNSA	CON
83	Attach 2 Appendix A 5	<u>ISSUES MANAGEMENT</u> . Contractors must ensure that a comprehensive, structured issues management system is in place. This system must provide for the timely and effective resolution of deficiencies, and be an integral part of effective contractor assurance system.	EM, NNSA	CON

#	Sect.	O 226.1 Requirements & Responsibilities	ORGS	LEVEL
84	Attach 2 Appendix A 5(a)	Program and performance deficiencies, regardless of their source, must be captured in a system or systems that provide for effective analysis, resolution, and tracking. Issues management must include structured processes for— (1) determining the risk, significance, and priority of deficiencies; (2) evaluating the scope and extent of the condition or deficiency (e.g., applicability to other equipment, activities, facilities, or organizations); (3) determining event reportability under applicable requirements (e.g., Price-Anderson Amendments Act, Occurrence Reporting and Processing System, security incident reporting); (4) identifying root causes (applied to all items using a graded approach based on risk); (5) identifying and documenting suitable corrective actions and recurrence controls, based on analyses, to correct the conditions and prevent recurrence; (6) identifying individuals/organizations responsible for implementing corrective actions; (7) establishing appropriate milestones for completion of corrective actions, including consideration of significance and risk; (8) tracking progress toward milestones such that responsible individuals and managers can ensure timely completion of actions and resolution of issues; (9) verifying that corrective actions are complete; (10) validating that corrective actions are effectively implemented and accomplish their intended purposes, using a graded approach based on risk; and (11) ensuring that individuals and organizations are accountable for performing their assigned responsibilities.	EM, NNSA	CON
85	Attach 2 Appendix A 5(b)	Issues management will provide a process for rapidly determining the impact of identified weaknesses and taking timely action to address conditions of immediate concern. For such conditions, interim corrective actions (e.g., stopping work, shutting down activities, or revising a procedure) are to be taken as soon as a condition is identified and without waiting until a formal report is issued.	EM, NNSA	CON
86	Attach 2 Appendix A 5(c)	Processes for analyzing deficiencies, individually and collectively, must be established to enable the identification of programmatic or systemic issues. Process products will be used by management to monitor progress in addressing known systemic issues and to optimize the allocation of assessment resources.	EM, NNSA	CON
87	Attach 2 Appendix A 5(d)	Sites must have effective processes for communicating issues up the management chain to senior management, using a graded approach that considers hazards and risks. The processes must provide sufficient technical basis to allow managers to make informed decisions and must include provisions for communicating and documenting dissenting opinions. Processes for resolving disputes about oversight findings and other significant issues must be implemented. The processes must include provisions for independent technical reviews of significant issues.	EM, NNSA	CON
88	Attach 2 Appendix A 6	<u>LESSONS LEARNED</u> . Formal programs must be established to communicate lessons learned during work activities, process reviews, and event analyses to potential users and applied to future work activities. Contractors must identify, apply, and exchange lessons learned with the rest of the DOE complex. Contractors must review and apply lessons learned identified by other DOE organizations and external sources to prevent similar occurrences.	EM, NNSA	CON

#	Sect.	O 226.1 Requirements & Responsibilities	ORGS	LEVEL
89	Attach 2 Appendix A 7	<p><u>PERFORMANCE MEASURES.</u> Contractors must identify, monitor, and analyze data measuring the performance of facilities, programs, and organizations. The data must be used to demonstrate performance improvement or deterioration relative to identified goals. Using a program to analyze and correlate data, contractors must suggest further improvements and identify good practices and lessons learned. To accomplish these objectives, contractors must establish programs that identify, gather, verify, analyze, trend, disseminate, and make use of performance indicators.</p> <p>Performance indicator data must be considered in allocating resources, establishing goals, identifying performance trends, identifying potential problems, and applying lessons learned and good practices. Quantitative performance indicators/measures also may be considered in evaluating performance and establishing oversight priorities. However, quantitative performance measures provide only a partial indication of system effectiveness and must be considered in combination with other appraisal and operational awareness results.</p>	EM, NNSA	CON
90	Attach 3	DOE Headquarters and field element line management maintain sufficient knowledge of site and contractor activities to make informed decisions about hazards, risks and resource allocation, provide direction to contractors, and evaluate contractor performance. The effectiveness of contractor assurance systems, the hazards at the site/activity, and the degree of risk are factors in determining the scope and frequency of DOE line management assessments and operational awareness activities.	EM, NNSA	HQ, FO
91	Attach 3(1)(a)	DOE line management oversight must: (1) Ensure contractor compliance with requirements. DOE line management must periodically examine contractor programs and their implementation at the work-activity level to assess that DOE requirements and external regulatory requirements are met effectively. Deficiencies must be brought to the attention of contractor management and addressed in a timely manner.	EM, NNSA	HQ, FO
92	Attach 3(1)(a)	(2) Ensure the adequacy of contractor assurance systems. DOE line management must review contractor assurance systems periodically to gauge that contractors are assessing site activities adequately, self-identifying deficiencies, and taking timely and effective corrective actions.	EM, NNSA	HQ, FO
93	Attach 3(1)(a)	(3) Evaluate contractor performance. DOE line management must periodically evaluate contractor performance in accordance with the provisions of their contracts.	EM, NNSA	HQ, FO
94	Attach 3(1)(a)	(4) Ensure compliance with requirements applicable to DOE line management. DOE line management organizations must establish and implement oversight processes for monitoring their internal operations and completing required activities, such as reviewing and approving safety analysis reports and security plans, performing emergency management functions, adjudicating security clearances, implementing computer security programs at DOE office buildings, operating classified and sensitive information identification and protection programs, and operating employee concerns programs and other such functions.	EM, NNSA	HQ, FO

#	Sect.	O 226.1 Requirements & Responsibilities	ORGS	LEVEL
95	Attach 3(1)(b)	DOE line management must set expectations and communicate them to contractors. This will be implemented through formal contract mechanisms and direct communication between DOE and contractor managers.	EM, NNSA	HQ, FO
96	Attach 3(1)(b)	(1) Particular attention must be devoted to ensuring that requirements and expectations are established in contractual documents, including performance indicators, measures, objectives, and criteria.	EM, NNSA	HQ, FO
97	Attach 3(1)(b)	(2) Performance expectations must be established through the development and approval of required program documents for - (a) quality assurance, (b) integrated safety management (including the environmental management system), (c) integrated safeguards and security management, (d) cyber security, (e) emergency management, and (f) business operations.	EM, NNSA	HQ, FO
98	Attach 3(1)(b)	(3) DOE line management must verify that plans submitted by contractors clearly delineate actions to be taken and describe programs that meet DOE requirements and expectations.	EM, NNSA	HQ, FO
99	Attach 3(1)(b)	(4) Indicators and performance measures must be established and periodically reviewed by DOE line management and communicated to contractors to provide tools for monitoring performance in meeting expectations.	EM, NNSA	HQ, FO
100	Attach 3(1)(b)	(5) In addition to collecting and analyzing long-term indicators of interest complex-wide, contractor-specific performance objectives and criteria and appropriate incentives must be identified and specified in contract documents. Objectives and criteria must be challenging and focused on improving performance in known areas of weakness.	EM, NNSA	HQ, FO
101	Attach 3(1)(b)	(6) If the contractor assurance system is not adequate, DOE line management will provide direction to the contractor through such measures as contractual provisions and required program documents (e.g., quality assurance program).	EM, NNSA	HQ, FO
102	Attach 3(1)(d)	DOE line management must have effective processes for communicating line oversight results and other issues up the DOE line management chain, using a graded approach based on the hazards and risks.	EM, NNSA	HQ, FO
103	Attach 3(1)(e)	DOE Headquarters line management personnel must regularly review the results of DOE field organization oversight and other information to maintain awareness of site conditions and trends and to determine the effectiveness of field line management oversight processes. DOE Headquarters line management must establish appropriate oversight activities to review the adequacy of the scope and implementation of field office self-assessment activities, field office oversight activities, and field office assurance systems.	EM, NNSA	HQ, FO

#	Sect.	O 226.1 Requirements & Responsibilities	ORGS	LEVEL
104	Attach 3(1)(f)	Oversight of high consequence activities, such as high hazard nuclear operations, require additional rigor, such as instituting Central Technical Authorities (CTA) for core nuclear safety functions. Oversight of operations with the potential for high consequence events such as nuclear facilities and operations require additional oversight that must include Headquarters awareness and assessment activities. For high-consequence nuclear operations, the CTAs will maintain awareness of the content of applicable DOE line oversight programs, plans, and processes, and contractor assurance systems by monitoring, evaluation and trend analyses, and by participation in oversight activities. The CTAs will also maintain awareness of the state of implementation of these line management programs, plans, and processes, and contractor assurance systems by monitoring associated assessment reports. The CTA support staff will also conduct and participate in various DOE Headquarters line oversight review activities as defined in the associated Headquarters oversight programs. Based on these activities the CTA will communicate identified issues and trends to line management, provide advice concerning technical solutions or options, and be able to follow up to ensure proper closure or implementation.	EM, NNSA	HQ, FO
105	Attach 3(1)(i)	DOE line management oversight will coordinate assessment activities with site assurance system activities to promote efficient use of resources and may conduct some assessments jointly with contractors. However, DOE line management must maintain an adequate baseline oversight program that includes sufficient standalone assessments of contractor management systems and site programs.	EM, NNSA	HQ, FO
106	Attach 3(1)(j)	DOE line management (primarily through field organizations) will implement a baseline line management oversight program that focuses resources on selected assessments, operational awareness activities, performance measure monitoring and improvement, and assessment of assurance systems. For sites that need improvement in site programs, management systems, or assurance systems (e.g., insufficient rigor or comprehensiveness in existing systems), DOE line management will conduct more frequent assessments focusing on areas needing improvement.	EM, NNSA	HQ, FO
107	Attach 3(1)(k)	DOE Headquarters and field element line management will regularly assess site assurance systems to determine the appropriate level of overlap and redundancy of DOE Headquarters and field element line management oversight. Accordingly, DOE line management organizations may increase their frequency and/or depth based on performance deficiencies or events or may decrease the frequency and/or depth of line management oversight assessments to reflect sustained effective site performance. Although external organization reviews and the effectiveness of assurance systems are considered in determining DOE line management oversight priorities and the scope and frequency of oversight activities, DOE line management must always maintain an adequate minimum baseline oversight program that enables DOE line management to understand the hazards and risks of activities.	EM, NNSA	HQ, FO

#	Sect.	O 226.1 Requirements & Responsibilities	ORGS	LEVEL
108	Attach 3(1)(l)	The effectiveness of the contractor assurance system will be determined based on objective criteria. DOE line management will establish criteria for determining the effectiveness of site programs, management systems, and contractor assurance systems that include consideration of previous assessment results (internal and external), effectiveness of completed corrective actions, demonstrated success in self-identifying and correcting deficiencies, the existence of rigorous and well documented programs, and evidence of sustained management support for site programs, management systems, and assurance systems.	EM, NNSA	HQ, FO
109	Attach 3(1)(m)	DOE Headquarters and field line management will establish documented program plans that describe their oversight activities and will develop an annual schedule of planned assessments and focus areas for operational awareness. Modifications to the schedule are expected in response to changing circumstances, but modifications are approved by DOE line management in accordance with defined processes.	EM, NNSA	HQ, FO
110	Attach 3(1)(n)	DOE oversight programs and assurance systems will evaluate performance against requirements and performance objectives to include laws, regulations, national standards, DOE directives, DOE-approved plans and program documents (e.g., security plans, authorization basis documents, and quality assurance program), site-specific procedures/manuals, criteria review and approach documents, other contractually mandated requirements, and contractual performance objectives. Requirements and performance objectives are established and interpreted through approved processes so that they are relevant to the site and mission.	EM, NNSA	HQ, FO
111	Attach 3(2)(a)	DOE line management must implement oversight processes as described below. Operational Awareness Activities. DOE line management, primarily through field organizations, must conduct routine day-to-day monitoring of work performance through facility tours/walk-throughs, work observation, document reviews, meeting attendance and participation, and ongoing interaction with contractor workers, support staff, and management. (1) DOE line management must rigorously review and critique contractor processes and performance in identifying, evaluating, and reporting events and safety issues that are required to be reported by laws, regulations, or DOE directives to determine whether issues are properly screened, evaluated, and reported. (2) DOE line management must evaluate and monitor the contractor evaluations and corrective actions for events and issues and assesses whether effective recurrence controls are identified and implemented. (3) Operational awareness activities must be documented either individually or in periodic (e.g., weekly or monthly) summaries. (4) Deficiencies in programs or performance identified during operational awareness activities must be communicated to the contractor for resolution through a structured issues management process, which can be managed by the DOE field organization or the contractor.	EM, NNSA	HQ, FO

#	Sect.	O 226.1 Requirements & Responsibilities	ORGS	LEVEL
112	Attach 3(2)(b)	<p>Assessments of Facilities, Operations, and Programs. DOE line management must establish and implement assessment programs to determine contractor compliance with requirements.</p> <p>(1) DOE line management assessments will be planned and scheduled based on requirements, analysis of hazards and risks, past performance, and effectiveness of contractor assurance systems for organizations, facilities, operations, and programs.</p> <p>(2) In addition to scheduled assessments, “for cause” reviews will be performed when circumstances warrant (e.g., when events indicate degradation of a system).</p> <p>(3) Assessments will be performed in support of facility startup and restart or review and will review and approve required program documents (e.g., authorization basis documents).</p> <p>(4) Assessments must include reviews of site qualification standard programs, training programs, and individual training and qualifications as they relate to environment, safety, and health; safeguards and security; emergency management; cyber security; and business practices.</p> <p>(5) Assessment results, including findings, must be documented and provided to the contractor for timely resolution.</p> <p>(6) Deficiencies identified by DOE assessments or other DOE reviews must be addressed in a structured issues management process. DOE verifies that contractor corrective actions are complete and effective in addressing deficiencies before they are closed out in the issues management system.</p> <p>(7) DOE line management must maintain a baseline assessment program that provides assurance that DOE managers have an accurate picture of the status and effectiveness of site programs and that deficiencies are identified in a timely manner.</p> <p>(8) DOE line management will perform “for cause” reviews and assessments in support of startup/restart and program document reviews as warranted.</p> <p>(9) Oversight must include structured and rigorous processes for validating the accuracy of information collected during assessments. DOE line management requires that findings must be tracked and resolved through structured and formal processes, including provisions for review of corrective action plans.</p> <p>(10) DOE line management must verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE assessments or reviews are closed, and requires that deficiencies are analyzed both individually and collectively to identify causes and prevent recurrences.</p>	EM, NNSA	HQ, FO

#	Sect.	O 226.1 Requirements & Responsibilities	ORGS	LEVEL
113	Attach 3(2)(c)	<p>Assessments of Contractor Assurance Systems. DOE requires that contractor assurance systems address all organizations, facilities, and program elements.</p> <p>(1) DOE line management must assess implementation and effectiveness of contractor assurance systems for environment, safety, and health; safeguards and security; emergency management; cyber security; and business practices systems and their subelements (e.g., radiation protection within environment, safety, and health) by examining the following:</p> <ul style="list-style-type: none"> <li>(a) assessment methods (e.g., whether sufficient emphasis is placed on observation of work activities);</li> <li>(b) the frequency, breadth, and depth of self-assessments;</li> <li>(c) line management involvement in self-assessments;</li> <li>(d) evaluators' technical expertise and qualifications;</li> <li>(e) the number and nature of findings identified; and</li> <li>(f) the degree of rigor applied to self-assessment.</li> </ul> <p>(2) DOE line management must regularly assess the effectiveness of contractor issues management and corrective action processes, lessons learned processes, and other feedback mechanisms (e.g., worker feedback). DOE line management must also evaluate contractor processes for communicating information, including dissenting opinions, up the management chain.</p> <p>(3) DOE line management must validate that contractor corrective actions have been implemented and are effective in resolving deficiencies and preventing recurrence.</p> <p>(4) DOE line management must also regularly assess the contractor's reporting processes and performance to assess that contractors meet reporting requirements for events and incidents of security, environment, safety, health, cyber security, and emergency management concern and take effective actions to prevent recurrence of deficiencies or findings.</p> <p>(5) For sites where contractors report the results of performance measures to DOE (e.g., as part of a contractual provision), DOE must regularly assess the effectiveness of processes for collecting, evaluating, and reporting performance data to ascertain the accuracy, completeness, and validity of the performance measures.</p>	EM, NNSA	HQ, FO



#	Sect.	O 226.1 Requirements & Responsibilities	ORGS	LEVEL
114	Attach 3(2)(d)	<p>Evaluations of Contractor Performance. As contracting officers, DOE line management must periodically evaluate contractor performance in meeting contractual requirements and expectations.</p> <p>(1) A combination of DOE line management oversight, contractor self-assessments, and other performance indicators (e.g., performance measures and event reports) must be used to evaluate contractor performance.</p> <p>(2) DOE line management must evaluate the effectiveness of management programs, including environment, safety, and health; safeguards and security; cyber security; emergency management; and business processes. Poor performance in these areas must have significant negative consequences on evaluations and fee determination. In accordance with contract provisions, evaluations must be used to reward significant accomplishments and/or performance improvements.</p> <p>(3) Quantitative performance indicators and measures may be used to support the evaluation of a contractor; however, such indicators provide only a partial indication of system effectiveness and must be considered in combination with assessment results.</p> <p>(4) Evaluations must be based on an analysis of the results of relevant information obtained or developed during the performance period, including contractual performance measures and objectives, DOE line management oversight, contractor self-assessments, operational history/events, and reviews by DOE and external organizations.</p>	EM, NNSA	HQ, FO
115	Attach 3(2)(e)	<p>Self-Assessments of DOE Line Management Functions and Performance. DOE Headquarters and field organizations must have a structured, documented self-assessment program for environment, safety, and health; safeguards and security; cyber security; emergency management; and business operations to comply with DOE requirements. DOE organizations must perform self-assessments of programmatic and line management oversight processes and activities (e.g., security surveys, facility representative programs, personnel qualification standards, and training programs) to assess whether requirements and management expectations are met. The frequency of assessments of these functions must be commensurate with the hazards and risks related to the activity being assessed. Continuous improvement mechanisms (e.g., corrective action processes) must be in place to improve the effectiveness and efficiency of oversight programs and site operations.</p>	EM, NNSA	HQ, FO
116	Attach 4 (1)	<p>1. REQUIREMENTS. Independent oversight will be conducted under the direct authority of the Secretary of Energy, and the results will be provided to DOE line management and other appropriate interested parties (e.g., Congress or other Federal/State agencies). Independent oversight performance evaluations at DOE sites provide an independent perspective on the effectiveness of DOE line management and contractors in ensuring that site operations are performed safely, securely, and in compliance with applicable requirements. To ensure consistent implementation of oversight processes, the director of each independent oversight program will ensure that independent oversight is accomplished in accordance with DOE directives (e.g., DOE O 470.2B, Independent Oversight and Performance Assurance) and other written work processes and established criteria (e.g., inspector protocols/guides and performance test methodologies).</p>	SSA, Other Independent Oversight Orgs.	HQ

#	Sect.	O 226.1 Requirements & Responsibilities	ORGS	LEVEL
117	Attach 4 (2)(a)	2. FOCUS. Independent oversight processes focus on areas of potential risk to DOE, such as environment, safety, and health; safeguards and security; cyber security; emergency management; and business processes. (a). In establishing priorities, independent oversight programs must select specific sites, facilities, programs, and activities for review through a planning process that considers risks, hazards, past performance, facility conditions, changes in mission or operations, changes in contractors or management organizations, and other such factors.	SSA, Other Independent Oversight Orgs.	HQ
118	Attach 4 (2)(b)	(b). A selective sampling approach must provide sufficient independent reviews of sites and programs while minimizing overlap with the DOE line management oversight activities conducted by the DOE Headquarters and field organizations.	SSA, Other Independent Oversight Orgs.	HQ
119	Attach 4 (2)(c)	(c). Written plans with evaluation criteria will be developed for major assessments. The current and historical effectiveness of the DOE line management oversight programs and contractor feedback and improvement processes is a major factor in determining the scope, breadth, and depth of an inspection. In addition, independent oversight priorities and the sampling approach may change over time as conditions change or at the direction of the Secretary of Energy.	SSA, Other Independent Oversight Orgs.	HQ
120	Attach 4 (2)(d)	(d). At the conclusion of independent oversight inspections, reports detailing assessment activities and results will be documented and disseminated to DOE line management. The independent oversight report development process and validation process will be documented in written work instructions to ensure that information collected during assessments and resulting findings are based on factually accurate and valid information.	SSA, Other Independent Oversight Orgs.	HQ
121	Attach 4 (2)(e)	(e). Independent oversight must provide a balance between reviews of documentation (e.g., procedures and records) and adequacy of implementation through performance tests and observation of work activities. A similar balance must be achieved for evaluations of systems (such as the DOE integrated safety management and integrated safeguards and security management systems), programs (e.g., radiation protection), facilities, and implementation of individual elements of those systems (e.g., specific work activities).	SSA, Other Independent Oversight Orgs.	HQ
122	Attach 4 (2)(f)	(f). Independent oversight activities, such as Office of Independent Oversight and Performance Assurance inspections, differ from DOE line management assessments in that they focus on the combined effectiveness of contractors and DOE line management in establishing site programs that meet DOE expectations. The selective evaluation of program implementation by contractors provides an indication of the effectiveness of DOE line management in providing direction and ensuring contractor performance.	SSA, Other Independent Oversight Orgs.	HQ

**CRADs Developed by the Office of Independent Oversight (SP-44/SSA) and  
includes Lines of Inquiry Related to 226.1 March 2006**

**APPENDIX A  
FEEDBACK AND CONTINUOUS IMPROVEMENT  
INSPECTION CRITERIA AND ACTIVITIES**

**Inspection Criteria #1: DOE Headquarters Line Management Oversight - DOE**

Headquarters line management has established and implemented effective oversight processes that evaluate the adequacy and effectiveness of field element assurance systems and DOE oversight processes. DOE Headquarters assurance system programs and processes are in accordance with the policy and key elements outlined in DOE Policy 226.1, *Department of Energy Oversight Policy*; DOE Order 226.1, *Implementation of Department of Energy Oversight Policy*, Attachment 3; quality assurance requirements (as stated in 10 Code of Federal Regulations (CFR) 830, Subpart A, or other applicable regulations), and applicable DOE directives<sup>1</sup>. DOE Headquarters line management oversight processes have been designed that are focused on the DOE field elements and also look at contractor activities to evaluate the implementation and effectiveness of field element line management oversight. To promote efficiency, DOE field organizations will perform most onsite operational awareness and assessment activities on behalf of the responsible DOE line management organization. However, DOE Headquarters line management personnel must regularly review the results of DOE field organization oversight and other information to maintain awareness of site conditions and trends and to determine the effectiveness of field line management oversight processes. DOE Headquarters line management must establish appropriate oversight activities to review the adequacy of the scope and implementation of field office self-assessment activities, field office oversight activities, and field office assurance systems.

- 1) DOE Headquarters line management has established a baseline line management oversight program that ensures that DOE Headquarters and field element line management maintains sufficient knowledge of site and contractor activities to make informed decisions concerning hazards, risks and resource allocation, provide direction to the field element, and evaluate field element performance.
- 2) DOE Headquarters line oversight program includes assessments, performance monitoring and improvement, and assessment of field element assurance systems. Documented program plans have been established that define oversight program activities and annual schedules of planned assessments. Deficiencies in programs or performance identified during assessment activities must be communicated to the field element for resolution through a structured issues management process.
- 3) Oversight must include structured and rigorous processes for validating the accuracy of information collected during headquarters assessments. DOE Headquarters line management requires that findings must be tracked and resolved through structured and formal processes, including provisions for review of corrective action plans.
- 4) DOE Headquarters line management must regularly assess the effectiveness of field element issues management and corrective action processes, lessons learned processes, and other feedback mechanisms (e.g., worker feedback). DOE Headquarters line management must also evaluate field element processes for communicating information, including dissenting opinions up the management chain.

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<sup>1</sup> For activities and programs at Government-owned and Government-operated facilities and sites that are not under the cognizance of a DOE field organization, DOE Headquarters program offices will establish and implement comparably effective oversight processes consistent with requirements for the contractor assurance system (DOE O 226.1, Attachment 2, Appendix A) and DOE line management oversight process (DOE O 226.1, Attachment 3).

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- 5) DOE Headquarters assesses the effectiveness of DOE-wide lessons learned processes to improve all work processes (e.g., safety, security, and business operations) and associated management systems.
- 6) DOE Headquarters line management must verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE Headquarters assessments or reviews are closed, and requires that deficiencies are analyzed both individually and collectively to identify causes and prevent recurrences.
- 7) DOE Headquarters line management has established appropriate criteria for determining the effectiveness of site programs, management systems, and contractor assurance systems, and includes consideration of previous assessment results, effectiveness of corrective actions and self-assessments, and evidence of sustained management support for site programs and management and assurance systems. Review criteria are based on requirements and performance objectives (e.g., laws, regulations, and DOE directives), headquarters procedures/manuals, and performance objectives.
- 8) DOE Headquarters line management regularly assesses site assurance systems to determine an appropriate level of overlap and redundancy of DOE Headquarters and field element oversight. The effectiveness of the field element and contractor assurance systems, the hazards at the site/activity, and the degree of risk are factors in determining the scope and frequency of DOE Headquarters line management oversight activities.
- 9) DOE Headquarters line management has established and maintained appropriate qualification standards for personnel with oversight responsibilities, and a clear, unambiguous line of authority and responsibility for oversight.
- 10) DOE Headquarters line management has established and implemented formal processes for ensuring requirements and performance expectations are established and communicated through formal contractual mechanisms to the contractor. Performance expectations are established through the development and approval of required program documents such as quality assurance program (QAP), integrated system management (ISM), integrated safeguards and security management (ISSM), etc. Headquarters line management periodically reviews established contractor performance measures to ensure performance objectives and criteria are challenging and focused on improving performance in known areas of weakness.
- 11) DOE Headquarters line management has established effective processes for communicating line oversight results and other issues up the DOE line management chain, using a graded approach based on the hazards and risks. Established processes provide sufficient technical information to allow informed decision-making by Headquarters line managers, and include provisions for communicating and documenting dissenting opinions. Formal structured processes for resolving disputes for Headquarters oversight findings and other significant issues have been implemented, and include provisions for independent technical reviews for significant findings.
- 12) DOE Headquarters line management periodically reviews the results of field oversight organization oversight and other information to maintain awareness of site conditions and trends. Headquarters line management oversight program activities include elements for reviewing the adequacy and scope of field element self-assessment activities, field element oversight activities, and field element assurance systems.
- 13) Central Technical Authorities (CTAs) periodically monitors, participates, and reviews the results of field oversight organization oversight and other information for high consequence nuclear operations to maintain operational awareness and to ensure the Department's nuclear safety policies and requirements are adequate and properly maintained.
- 14) DOE Headquarters line management (unless formally delegated) annually reviews and approves contractor assurance system program descriptions updates.

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- 15) DOE Headquarters initially approves and, thereafter, annually reviews and approves integrated safety management system description updates, unless approval authority is delegated to the DOE field element.
- 16) DOE Headquarters line management performs periodic reviews of the contractor assurance system program and processes for consistency across the DOE complex and ensures that they reflect industry best practices.
- 17) DOE headquarters organizations must perform self-assessments of programmatic and line management oversight processes and activities (e.g., security surveys, personnel qualification standards, and training programs) to assess whether requirements and management expectations are met. Continuous improvement mechanisms (e.g., corrective action processes) must be in place to improve the effectiveness and efficiency of oversight programs and site operations.

**Review Approach:** Review appropriate oversight directives, policies, program descriptions, procedures, instructions, and guidance. Review assessment activity planning documents and schedules. Interview DOE managers and staff to determine how assessments are planned and performed and how they are used to improve performance. Review documentation related to deficiencies (e.g., procedures, completed assessments, causal analyses and corrective action plans, verification/validation records, and effectiveness determinations). Review trend analysis and performance indicator reports and evaluate the analyses, conclusions, and any related corrective actions. Review training and qualification records and interview personnel to determine the adequacy in establishing and enhancing competence of oversight personnel.

### **Inspection Lines of Inquiry (DOE Headquarters):**

- 1) **Oversight Program** - Are the DOE Headquarters and field element line management oversight programs, plans, processes and schedules compliant with DOE O 226.1, coordinated, documented, risk informed and historically aware, while ensuring significant deficiencies are identified, documented, communicated, evaluated, tracked and appropriately resolved?
  - a) Are the roles, responsibilities, and authorities for quality assurance documented in Headquarters QAPP in accordance with DOE Order 414.1C, *Quality Assurance*?
  - b) Are responsibilities for implementing Headquarters line oversight and self-assessment plans formally assigned and documented?
  - c) Has DOE Headquarters line management established and communicated appropriate criteria for delegation and coordination of performance assurance program functions to DOE field elements and for determining the effectiveness of DOE Headquarters, DOE field elements and contractor programs, management systems, and assurance systems?
    - i) Do the delegation and coordination criteria include requirements that ensure the Headquarters and field element performance assurance programs, when taken together, comprehensively encompass the requirements of DOE O 226.1, Attachment 3, and provide sufficient overlap to facilitate Headquarters assessment of DOE field element performance assurance programs and activities?
    - ii) Do the criteria include consideration of previous assessment results; effectiveness of corrective actions and self-assessments; and evidence of sustained management support for site programs, management and assurance systems?
    - iii) Is the criteria based on requirements and performance objectives relevant to the site and site mission (e.g., laws, regulations, national standards, DOE directives, DOE-approved plans and program documents, site-specific procedures/manuals, and criteria review and approach documents), headquarters procedures/manuals, and other performance objectives, including those required for:

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- (1) Authorization Basis;
  - (2) Quality Assurance;
  - (3) Integrated Safety Management (including the environmental management system);
  - (4) Integrated Safeguards and Security Management;
  - (5) Cyber Security;
  - (6) Emergency Management;
  - (7) Business operations;
  - (8) Self assessments; and,
  - (9) Contractually mandated requirements, including performance indicators, measures, objectives, and criteria?
- d) Do DOE Headquarters line management oversight programs establish effective processes for performance assessment and monitoring of the scope and implementation of delegated functions addressed by DOE field element line management performance assurance programs and activities, to:
- i) Ensure contractor compliance with requirements;
  - ii) Ensure the adequacy of contractor assurance systems;
  - iii) Ensure contractor performance in accordance with the provisions of their contracts;
  - iv) Ensure deficiencies are brought to the attention of contractor management and addressed in a timely manner;
  - v) Ensure compliance with requirements applicable to DOE line management; and,
  - vi) Ensure the establishment and implementation of oversight processes for monitoring and ensuring continuous improvement in their internal operations and required activities, such as reviewing and approving safety analysis reports and security plans, performing emergency management functions, adjudicating security clearances, implementing computer security programs at DOE office buildings, operating classified and sensitive information identification and protection programs, and operating employee concerns programs and other such functions?
- e) Do DOE Headquarters line management oversight programs and processes for performance assessment and monitoring of the scope and implementation of the contractor's programs and activities, require:
- i) The overall scope, content, and frequency of assessments included in the coordinated DOE Headquarters and field element line management oversight program are based on the assessed effectiveness of DOE line management and contractor assurance systems, the hazards at the site/activity, and the degree of risk involved;
  - ii) A minimum DOE line management baseline oversight program is established and implemented (which includes planned, coordinated, and scheduled assessments by DOE Headquarters and/or field elements) that focuses resources on selected assessments, operational awareness activities, performance measure monitoring and improvement, and assessment of assurance systems to enable DOE line management to understand the hazards and risks of activities;
  - iii) Regular assessment of site assurance systems are conducted to determine the appropriate level of overlap and redundancy of DOE Headquarters and field element line management oversight;
  - iv) Assessment activities are coordinated with site assurance system activities to promote efficient use of resources while maintaining an adequate baseline oversight program that includes sufficient standalone assessments of contractor management and assurance systems and site programs;

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- v) The results of external organization reviews and the effectiveness of assurance systems are considered in determining DOE line management oversight priorities and the scope and frequency of oversight activities, while still implementing the defined minimum baseline oversight process;
  - vi) Oversight activity frequency and/or depth are increased based on performance deficiencies or events, or decreased to reflect sustained effective site performance;
  - vii) More frequent assessments are required on areas needing improvement in site programs, management systems, or assurance systems (e.g., insufficient rigor or comprehensiveness in existing systems);
  - viii) Appropriate “for cause” reviews, reviews pursuant to other requirements in this Order, discretionary assessments, or for support to field elements during assessments are conducted, where necessary;
  - ix) Additional oversight rigor is required for high consequence activities that include Headquarters awareness and assessment activities, such as instituting a Central Technical Authorities (CTA) for core nuclear safety functions;
  - x) A balance is maintained between reviews of documentation (e.g., plans, procedures, and records) and adequacy of implementation through performance tests and observation of actual work activities at the facilities; and
  - xi) A similar balance is maintained between evaluations of systems (such as the DOE integrated safety management system and integrated safeguards and security management system), programs (e.g., radiation protection), facilities, and implementation of individual elements of those systems (e.g., specific work activities)?
- f) Do the DOE Headquarters line management oversight programs require the CTA to:
- i) Maintain awareness of the content of applicable DOE line oversight programs, plans, and processes, and contractor assurance systems by monitoring, evaluation and trend analyses, and by participation in oversight activities;
  - ii) Maintain awareness of the state of implementation of these line management programs, plans, and processes, and contractor assurance systems by monitoring associated assessment reports;
  - iii) Conduct and participate in various DOE Headquarters line oversight review activities as defined in the associated Headquarters oversight programs;
  - iv) Communicate identified issues and trends to line management;
  - v) Provide advice concerning technical solutions or options; and
  - vi) Be able to follow up to ensure proper closure or implementation?
- g) Do DOE Headquarters line management oversight programs require monitoring and self-assessment of Headquarters line management programs and activities, including requirements for:
- i) A structured, documented self-assessment program to confirm compliance with DOE requirements for environment, safety, and health; safeguards and security; cyber security; emergency management; and business operations.
  - ii) Establishment and implementation of oversight processes for monitoring and ensuring continuous improvement in internal operations and required activities, such as reviewing and approving safety analysis reports and security plans, performing emergency management functions, adjudicating security clearances, implementing computer security programs at DOE office buildings, operating classified and sensitive information identification and protection programs, and operating employee concerns programs and other such functions?
  - iii) Performance of self-assessments of programmatic and line management oversight processes and activities (e.g., security surveys, personnel qualification standards, and

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- training programs) to assess whether requirements and management expectations are met.
- iv) Adjusting the frequency of assessments to be commensurate with the hazards and risks related to the activity being assessed. Continuous improvement mechanisms (e.g., corrective action processes) must be in place to improve the effectiveness and efficiency of oversight programs and site operations.
  - h) Do DOE Headquarters line management oversight programs and processes require results of oversight activities to be appropriately validated, documented, communicated, classified, evaluated, tracked and resolved?
    - i) Are structured and rigorous processes required for validating the accuracy of information collected during assessments?
    - ii) Are deficiencies in programs or performance identified during assessment activities required to be communicated to appropriate managers for resolution through a structured issues management process?
    - iii) Are dissenting opinions required to be documented and appropriately communicated with assessment results?
    - iv) Are processes for resolution of disputes about oversight findings and other significant issues established, including where necessary, approved processes for interpretation of requirements?
    - v) Are effective processes established for independent technical reviews of significant issues?
    - vi) Are effective processes established for communicating line management oversight results and other issues up and down the DOE line management chain, using a graded approach based on the hazards and risk?
    - vii) Are findings required to be tracked and resolved through structured and formal processes, including provisions for review of corrective action plans?
    - viii) Is DOE line management required to verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE assessments or reviews are closed?
    - ix) Are deficiencies required to be analyzed both individually and collectively to identify causes and prevent recurrences?
  - i) Are DOE Headquarters line management oversight programs and the annual schedule of planned assessments and focus areas documented and approved?
  - j) Do DOE Headquarters line management oversight programs define the process for modifications of the annual oversight activity schedule and for DOE line management approval in response to changing circumstances?
  - k) If DOE Headquarters and field element line management oversight processes are implemented as written, would DOE Headquarters and field element line management maintain sufficient knowledge of site and contractor activities to make informed decisions about hazards, risks and resource allocation, provide direction to contractors, and evaluate contractor performance?
- 2) **Training & Qualification** – Are DOE Headquarters staff adequately trained and qualified to perform assigned oversight activities?
- a) Has DOE line management defined the requirements for experience, knowledge, skills and abilities for personnel implementing the assurance system elements?
  - b) Has DOE line management established, maintained, and implemented appropriate qualification standards for personnel with oversight responsibilities?
  - c) Has DOE line management provided and ensured completion of appropriate training for personnel implementing headquarters assurance system elements?



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- 3) **Implementation of Program Responsibilities** – Does DOE Headquarters line management maintain sufficient knowledge of DOE field element line management, site and contractor programs and activities to make informed decisions about hazards, risks and resource allocation, to evaluate DOE field element line management and contractor performance, and to provide direction?
- a) Were the following assessments required by DOE O 226.1 performed; what were the results; how were the insights used; and how effective were the corrective actions?
- i) Do DOE Headquarters line management personnel regularly review the results of DOE field organization and contractor oversight activities to maintain awareness of site conditions and trends and to determine the effectiveness of field line management oversight processes?
  - ii) Does DOE Headquarters line management periodically review established performance measures to ensure performance objectives and criteria are challenging and focused on improving performance in known areas of weakness?
  - iii) Does DOE Headquarters line management (unless formally delegated) annually review and approve contractor assurance system program descriptions updates?
  - iv) Does DOE Headquarters initially approve and, thereafter, annually review and approve integrated safety management system description updates, unless approval authority is delegated to the DOE field element?
  - v) Do Headquarters managers monitor field element performance and assess whether performance expectations are met; that field elements are assessing site activities adequately; self-identifying deficiencies; and, taking timely and effective corrective actions?
  - vi) Does DOE Headquarters line management regularly assess the effectiveness of field element issues management and corrective action processes, lessons learned processes, and other feedback mechanisms (e.g., worker feedback)?
  - vii) Does DOE Headquarters line management evaluate field element processes for communicating information, including dissenting opinions up the management chain?
  - viii) Does DOE Headquarters line management regularly assess field element assurance systems to determine the appropriate level of overlap and redundancy of DOE Headquarters and field element oversight?
  - ix) Are the effectiveness of the field element assurance system; the hazards at the site/activity; and the degree of risk factors in determining the scope and frequency of the combined DOE Headquarters and field element line management oversight program assessment activities?
  - x) Are program and performance deficiencies brought to the attention of appropriate management and addressed in a timely manner?
  - xi) Do DOE organizations perform self-assessments of programmatic and line management oversight processes and activities (e.g., security surveys, personnel qualification standards, and training programs) to assess whether requirements and management expectations are met, and to identify opportunities for improvement?
  - xii) Are continuous improvement mechanisms (e.g., corrective action processes) in place to improve the effectiveness and efficiency of oversight programs and site operations?
  - xiii) Does DOE Headquarters line management perform periodic reviews of the field element assurance system programs and processes for consistency across the DOE complex and ensure that they reflect industry best practices?

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- xiv) Does the DOE Headquarters regularly assess the effectiveness of DOE-wide lessons learned processes to improve all work processes (e.g., safety, security, and business operations) and associated management systems?
  - xv) Do Central Technical Authorities (CTAs) periodically monitor, participate in and review the results of field oversight organization oversight and other information for high consequence nuclear operations to maintain operational awareness and to ensure the Department's nuclear safety policies and requirements are adequate and properly maintained?
  - b) Are managers, supervisors, and workers held accountable for assigned performance assurance responsibilities?
  - c) Are oversight program responsibilities appropriately implemented?
  - d) Is the coordinated DOE Headquarters and field element line management oversight program risk informed and historically aware while ensuring significant deficiencies are identified, documented, communicated, evaluated, tracked and appropriately resolved?
  - e) Is the coordinated DOE Headquarters and field element line management oversight program effective in ensuring that site operations are performed safely, securely, and in compliance with applicable requirements?
- 4) **Oversight Results and Corrective Action Process** – Are the results of DOE Headquarters line management oversight activities appropriately validated, documented, communicated, classified, evaluated, tracked and resolved?
- a) Are structured and rigorous processes used for validating the accuracy of information collected during assessments?
  - b) Are deficiencies in programs or performance identified during assessment activities communicated to appropriate management for resolution through a structured issues management process?
  - c) Does DOE Headquarters line management have effective processes for communicating line oversight results and other issues up and down the management chain?
  - d) Do the DOE Headquarters line management oversight processes provide sufficient technical basis to allow senior DOE headquarters managers to make informed decisions?
  - e) Are findings tracked and resolved through structured and formal processes, including provisions for review of corrective action plans?
  - f) Does DOE Headquarters line management verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE Headquarters assessments or reviews are closed?
  - g) Are deficiencies analyzed both individually and collectively to identify causes and prevent recurrences?

**Inspection Criteria #2: DOE Field Element Line Management Oversight** - DOE field element line management has established and implemented effective oversight processes that evaluate the adequacy and effectiveness of contractor assurance systems and DOE oversight processes. DOE field element assurance system programs and processes are in accordance with the policy and key elements outlined in DOE Policy 226.1, *Department of Energy Oversight Policy*; DOE Order 226.1, *Implementation of Department of Energy Oversight Policy*, Attachment 3; quality assurance requirements (as stated in 10 Code of Federal Regulations (CFR) 830, Subpart A, or other applicable regulations); and applicable DOE directives.

- 1) DOE field element line management has established a baseline line management oversight program that ensures that DOE field element line management maintains sufficient knowledge of site and contractor activities to make informed decisions concerning hazards,

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risks and resource allocation, provide direction to contractors, and evaluate contractor performance.

- 2) DOE field element line oversight program includes assessments, operational awareness activities, performance monitoring and improvement, and assessment of contractor assurance systems. Documented program plans have been established that define oversight program activities and annual schedules of planned assessments and focus areas for operational awareness. Operational awareness activities must be documented either individually or in periodic (e.g., weekly or monthly) summaries. Deficiencies in programs or performance identified during operational awareness activities must be communicated to the contractor for resolution through a structured issues management process.
- 3) Oversight must include structured and rigorous processes for validating the accuracy of information collected during assessments. DOE field element line management requires that findings must be tracked and resolved through structured and formal processes, including provisions for review of corrective action plans.
- 4) DOE field element line management must regularly assess the effectiveness of contractor issues management and corrective action processes, lessons learned processes, and other feedback mechanisms (e.g., worker feedback). DOE field element line management must also evaluate contractor processes for communicating information, including dissenting opinions, up the management chain.
- 5) DOE field elements regularly assess the effectiveness of DOE-wide lessons learned processes to improve all work processes (e.g., safety, security, and business operations) and associated management systems.
- 6) DOE field element line management must verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE assessments or reviews are closed, and requires that deficiencies are analyzed both individually and collectively to identify causes and prevent recurrences.
- 7) DOE field element line management has established appropriate criteria for determining the effectiveness of site programs, management systems, and contractor assurance systems, and includes consideration of previous assessment results, effectiveness of corrective actions and self-assessments, and evidence of sustained management support for site programs and management and assurance systems. Review criteria are based on requirements and performance objectives (e.g., laws, regulations, and DOE directives), site-specific procedures/manuals, and other contractually mandated requirements and performance objectives.
- 8) DOE field element line management regularly assesses site assurance systems to determine the appropriate level of overlap and redundancy of DOE Headquarters and field element oversight. The effectiveness of the contractor assurance system, the hazards at the site/activity, and the degree of risk are factors in determining the scope and frequency of DOE field element line management oversight activities.
- 9) DOE field element line management has established and maintained appropriate qualification standards for personnel with oversight responsibilities, and a clear, unambiguous line of authority and responsibility for oversight.
- 10) DOE field element line management has established and implemented formal processes for ensuring requirements and performance expectations are established and communicated through formal contractual mechanisms to the contractor. Performance expectations are established through the development and approval of required program documents such as quality assurance program (QAP), integrated system management (ISM), integrated safeguards and security management (ISSM), etc. Line management periodically reviews established performance measures to ensure performance objectives and criteria are challenging and focused on improving performance in known areas of weakness.

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- 11) DOE field element line management has established effective processes for communicating line oversight results and other issues up the DOE line management chain, using a graded approach based on the hazards and risks. Established processes provide sufficient technical information to allow informed decision-making by line managers, and include provisions for communicating and documenting dissenting opinions. Formal structured processes for resolving disputes for oversight findings and other significant issues have been implemented, and include provisions for independent technical reviews for significant findings.
- 12) DOE field element line management annually reviews and approves contractor assurance system program descriptions updates (if formally delegated, otherwise reviews and forwards to Headquarters for approval).
- 13) DOE field element initially approves and, thereafter, annually reviews and approves integrated safety management system description updates (if formally delegated, otherwise reviews and forwards to Headquarters for approval).
- 14) DOE field element line management monitors contractor performance and assesses whether performance expectations are met; that contractors are assessing site activities adequately; self-identifying deficiencies; and, taking timely and effective corrective actions. Responsibilities for line oversight and self-assessment are assigned and managers, supervisors, and workers are held accountable for performance assurance activities. Deficiencies must be brought to the attention of contractor management and addressed in a timely manner.
- 15) DOE field elements must have a structured, documented self-assessment program for environment, safety, and health; safeguards and security; cyber security; emergency management; and business operations. DOE field elements must perform self-assessments of programmatic and line management oversight processes and activities (e.g., security surveys, facility representative programs, personnel qualification standards, and training programs) to assess whether requirements and management expectations are met. Continuous improvement mechanisms (e.g., corrective action processes) must be in place to improve the effectiveness and efficiency of oversight programs and site operations.
- 16) An effective employee concerns program been established and implemented in accordance with DOE Directives that encourages the reporting of employee concerns and provides thorough investigations and effective corrective actions and recurrence controls.

**Review Approach:** Review appropriate oversight directives, policies, program descriptions, procedures, instructions, and guidance. Review operational awareness and assessment activity planning documents and schedules. Review operational awareness data and assessment reports for adequacy in selected areas. Interview DOE managers and staff to determine how assessments are planned and performed and how they are used to improve performance. Review documentation related to deficiencies (e.g., procedures, completed assessments, employee concern case files, causal analyses and corrective action plans, verification/validation records, and effectiveness determinations). Review trend analysis and performance indicator reports and evaluate the analyses, conclusions, and any related corrective actions. Review training and qualification records and interview personnel to determine the adequacy in establishing and enhancing competence of oversight personnel.

**Inspection Lines of Inquiry (DOE Field Element):**

- 1) Oversight Program - Are the DOE Headquarters and field element line management oversight programs, plans, processes and schedules compliant with DOE O 226.1, coordinated, documented, risk informed and historically aware, while ensuring significant deficiencies are identified, documented, communicated, evaluated, tracked and appropriately resolved?

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- a) Are the roles, responsibilities, and authorities for quality assurance documented in DOE field element Quality Assurance Plans in accordance with DOE Order 414.1C, *Quality Assurance*?
- b) Are responsibilities for implementing field element line oversight and self-assessment plans formally assigned and documented?
- c) Are the requirements of the Headquarters QAP reflected in a site-level QAP?
- d) Has DOE field element line management established and communicated appropriate criteria for determining the effectiveness of DOE field element and contractor programs, management systems, and assurance systems?
  - i) Do the criteria include consideration of previous assessment results; effectiveness of corrective actions and self-assessments; and evidence of sustained management support for site programs, management, and assurance systems?
  - ii) Is the criteria based on requirements and performance objectives relevant to the site and site mission (e.g., laws, regulations, national standards, DOE directives, DOE-approved plans and program documents, site-specific procedures/manuals, and criteria review and approach documents), DOE procedures/manuals, and other performance objectives, including those required for:
    - (1) Authorization Basis;
    - (2) Quality Assurance;
    - (3) Integrated Safety Management (including the environmental management system);
    - (4) Integrated Safeguards and Security Management;
    - (5) Cyber Security;
    - (6) Emergency Management;
    - (7) Business operations;
    - (8) Self assessments; and,
    - (9) Contractually mandated requirements, including performance indicators, measures, objectives, and criteria?
- e) Do DOE field element line management oversight programs include effective processes for performance assessment and monitoring of the scope and implementation of contractor activities, management programs and assurance systems, including:
  - i) Operational Awareness Activities, the majority of which are performed by the DOE field element that include:
  - ii) Routine day-to-day monitoring of work performance through facility tours/walk-through, work observation, document reviews, meeting attendance and participation, and ongoing interaction with contractor workers, support staff, and management;
  - iii) Rigorous review and critique of contractor processes and performance in identifying, evaluating, and reporting events and safety issues that are required to be reported by laws, regulations, or DOE directives to determine whether issues are properly screened, evaluated, and reported;
  - iv) Evaluation and monitoring of the contractor evaluations and corrective actions for events and issues and assesses whether effective recurrence controls are identified and implemented;
  - v) Documentation of operational awareness activities either individually or in periodic (e.g., weekly or monthly) summaries; and
- f) Assessments of Facilities, Operations, and Programs to ensure contractor compliance with requirements that include:
  - i) Planned and scheduled assessments of effectiveness based on DOE and external requirements, analysis of hazards and risks, past performance, and effectiveness of contractor assurance systems for organizations, facilities, operations, and programs;

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- ii) “For cause” reviews in addition to scheduled assessments when circumstances warrant (e.g., when events indicate degradation of a system);
- iii) Assessments in support of facility startup and restart, and review and approval of required program documents (e.g., authorization basis documents);
- iv) Assessments of the site qualification standard programs, training programs, and individual training and qualifications as they relate to environment, safety, and health; safeguards and security; emergency management; cyber security; and business practices; and
- g) Assessments of the adequacy of the contractor assurance system that include:
  - i) Verification that the contractor assurance systems address all organizations, facilities, and program elements.
  - ii) Assessments of implementation and effectiveness of contractor assurance systems for environment, safety, and health; safeguards and security; emergency management; cyber security; and business practices systems and their sub elements (e.g., radiation protection within environment, safety, and health), by examining the following:
    - (a) assessment methods (e.g., whether sufficient emphasis is placed on observation of work activities);
    - (b) the frequency, breadth, and depth of self-assessments;
    - (c) line management involvement in self-assessments;
    - (d) evaluators’ technical expertise and qualifications;
    - (e) the number and nature of findings identified; and
    - (f) The degree of rigor applied to self-assessment.
  - iii) Regular assessments of the effectiveness of contractor issues management and corrective action processes, lessons learned processes, and other feedback mechanisms (e.g., worker feedback).
  - iv) Evaluation of contractor processes for communicating information, including dissenting opinions, up the management chain.
  - v) Verification that contractor corrective actions have been implemented and are effective in resolving deficiencies and preventing recurrence.
  - vi) Regular assessments of the contractor’s reporting processes and performance to confirm that contractors meet reporting requirements for events and incidents of security, environment, safety, health, cyber security, and emergency management concern and take effective actions to prevent recurrence of deficiencies or findings; and
  - vii) For sites where contractors report the results of performance measures to DOE (e.g., as part of a contractual provision), regular assessments of the effectiveness of processes for collecting, evaluating, and reporting performance data to ascertain the accuracy, completeness, and validity of the performance measures.
- h) Evaluations of contractor performance to ensure provisions of the contract are met, that include:
  - i) Periodic evaluation of the effectiveness of contractor management programs, including environment, safety, and health; safeguards and security; cyber security; emergency management; and business processes. Poor performance in these areas must have significant negative consequences on evaluations and fee determination. In accordance with contract provisions, evaluations must be used to reward significant accomplishments and/or performance improvements.
  - ii) Evaluations that are based on an analysis of the results of relevant information obtained or developed during the performance period, including contractual performance measures and objectives, DOE line management oversight, contractor

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- self-assessments, operational history/events, and reviews by DOE and external organizations.
- iii) Evaluations using the results of quantitative performance indicators and measures may be considered if assessed in combination with other assessment results in recognition that such indicators provide only a partial indication of system.
  - i) Do the DOE field element line management oversight programs and processes described above for performance assessment and monitoring of the scope and implementation of the contractor's programs and activities, require:
    - i) Determination of the overall scope, content and frequency of assessments included in the coordinated DOE Headquarters and field element line management oversight program to be based on the assessed effectiveness of DOE line management and contractor assurance systems, the hazards at the site/activity, and the degree of risk involved;
    - ii) Establishment and implementation of a minimum DOE line management baseline oversight program (which includes planned, coordinated and scheduled assessments by DOE Headquarters and/or field elements) that focuses resources on selected assessments, operational awareness activities, performance measure monitoring and improvement, and assessment of assurance systems to enable DOE line management to understand the hazards and risks of activities;
    - iii) Increasing oversight activity frequency and/or depth based on performance deficiencies or events, or decreasing frequency and/or depth to reflect sustained effective site performance;
    - iv) Conducting more frequent assessments focusing on areas needing improvement in site programs, management systems, or assurance systems (e.g., insufficient rigor or comprehensiveness in existing systems);
    - v) Conducting, as appropriate, "for cause" reviews, reviews pursuant to other requirements in this Order, discretionary assessments, or for support to field elements during assessments;
    - vi) Coordination of assessment activities with site assurance system activities to promote efficient use of resources while maintaining an adequate baseline oversight program that includes sufficient standalone assessments of contractor management and assurance systems and site programs;
    - vii) Regular assessment of site assurance systems to determine the appropriate level of overlap and redundancy of DOE field element line management oversight;
    - viii) Consideration of the results of external organization reviews and the effectiveness of assurance systems in determining DOE line management oversight priorities and the scope and frequency of oversight activities, while still implementing the defined minimum baseline oversight process;
    - ix) Maintaining a balance between reviews of documentation (e.g., plans, procedures, and records) and adequacy of implementation through performance tests and observation of actual work activities at the facilities; and,
    - x) Maintaining a similar balance between evaluations of systems (such as the DOE integrated safety management system and integrated safeguards and security management system), programs (e.g., radiation protection), facilities, and implementation of individual elements of those systems (e.g., specific work activities)?
  - j) Do DOE field element line management oversight programs require monitoring and self-assessment of DOE field element line management programs and activities, including requirements for:

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- i) A structured, documented self-assessment program to confirm compliance with DOE requirements for environment, safety, and health; safeguards and security; cyber security; emergency management; and business operations.
- ii) Establishment and implementation of oversight processes for monitoring and ensuring continuous improvement in internal operations and required activities, such as reviewing and approving safety analysis reports and security plans, performing emergency management functions, adjudicating security clearances, implementing computer security programs at DOE office buildings, operating classified and sensitive information identification and protection programs, and operating employee concerns programs and other such functions?
- iii) Performance of self-assessments of programmatic and line management oversight processes and activities (e.g., security surveys, facility representative programs, personnel qualification standards, and training programs) to assess whether requirements and management expectations are met.
- iv) Adjusting the frequency of assessments to be commensurate with the hazards and risks related to the activity being assessed. Continuous improvement mechanisms (e.g., corrective action processes) must be in place to improve the effectiveness and efficiency of oversight programs and site operations.
- k) Do DOE field element line management oversight programs and processes require results of oversight activities to be appropriately validated, documented, communicated, classified, evaluated, tracked and resolved?
  - i) Are structured and rigorous processes required for validating the accuracy of information collected during assessments?
  - ii) Are deficiencies in programs or performance identified during assessment activities required to be communicated to appropriate managers for resolution through a structured issues management process?
  - iii) Are dissenting opinions required to be documented and appropriately communicated with assessment results?
  - iv) Are processes for resolution of disputes about oversight findings and other significant issues established, including where necessary, approved processes for interpretation of requirements?
  - v) Are effective processes established for independent technical reviews of significant issues?
  - vi) Are effective processes established for communicating line management oversight results and other issues up and down the DOE line management chain, using a graded approach based on the hazards and risk?
  - vii) Are findings required to be tracked and resolved through structured and formal processes, including provisions for review of corrective action plans?
  - viii) Is DOE line management required to verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE assessments or reviews are closed?
  - ix) Are deficiencies required to be analyzed both individually and collectively to identify causes and prevent recurrences?
- l) Are DOE field element line management oversight programs and the annual schedule of planned assessments and focus areas documented and approved?
- m) Do DOE field element line management oversight programs define the process for modifications of the annual oversight activity schedule and for DOE line management approval in response to changing circumstances?



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- n) Has an effective employee concerns program been established and implemented that encourages the reporting of employee concerns and provides thorough investigations and effective corrective actions and recurrence controls?
  - o) Are continuous improvement mechanisms (e.g., corrective action processes) in place to improve the effectiveness and efficiency of oversight programs and site operations?
  - p) If DOE Headquarters and field element line management oversight processes are implemented as written, would DOE Headquarters and field element line management maintain sufficient knowledge of site and contractor activities to make informed decisions about hazards, risks and resource allocation, provide direction to contractors, and evaluate contractor performance?
- 2) **Training & Qualification** – Are DOE field element staff adequately trained and qualified to perform assigned oversight activities?
- a) Has DOE line management defined the requirements for experience, knowledge, skills and abilities for personnel implementing the assurance system elements?
  - b) Has DOE line management established, maintained, and implemented appropriate qualification standards for personnel with oversight responsibilities?
  - c) Has DOE line management provided and ensured completion of appropriate training for personnel implementing the DOE field element line management assurance system elements?
- 3) **Implementation of Program Responsibilities** – Does DOE field element line management maintain sufficient knowledge of contractor programs and activities to make informed decisions about hazards, risks and resource allocation, to efficiently evaluate contractor performance, and to provide direction?
- a) Were the following assessments required by DOE O 226.1 performed; what were the results; how were the insights used; and how effective were the corrective actions?
    - i) Do DOE field element line management personnel regularly review the results of DOE Headquarters and contractor oversight activities to maintain awareness of site conditions and trends and to determine the effectiveness of DOE line management oversight processes?
    - ii) Does DOE field element line management periodically review established performance measures to ensure performance objectives and criteria are challenging and focused on improving performance in known areas of weakness?
    - iii) Does DOE field element line management (unless not formally delegated) annually review and approve contractor assurance system program descriptions updates?
    - iv) Does DOE field element initially approve and, thereafter, annually review and approve integrated safety management system description updates, unless approval authority is not delegated to the DOE field element?
    - v) Does DOE field element management regularly assess whether field elements are assessing site activities adequately; self-identifying deficiencies; and, taking timely and effective corrective actions?
    - vi) Does DOE field element line management regularly assess the effectiveness of field element issues management and corrective action processes, lessons learned processes, and other feedback mechanisms (e.g., worker feedback)?
    - vii) Does DOE field element line management evaluate field element processes for communicating information, including dissenting opinions, up the management chain?

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- viii) Does DOE field element line management regularly assess field element assurance systems to determine the appropriate level of overlap and redundancy with DOE headquarters and contractor assessment activities?
  - ix) Are the effectiveness of the site assurance system; the hazards at the site/activity; and, the degree of risk factors in determining the scope and frequency of the combined DOE Headquarters and field element line management oversight program assessment activities?
  - x) Do DOE organizations perform self-assessments of programmatic and line management oversight processes and activities (e.g., security surveys, personnel qualification standards, and training programs) to assess whether requirements and management expectations are met, and to identify opportunities for improvement?
  - xi) Are continuous improvement mechanisms (e.g., corrective action processes) in place to improve the effectiveness and efficiency of oversight programs and site operations?
  - xii) Do Central Technical Authorities (CTAs) periodically monitor, participate in and review the results of field oversight organization oversight and other information for high consequence nuclear operations to maintain operational awareness and to ensure the Department's nuclear safety policies and requirements are adequate and properly maintained?
  - b) Are managers, supervisors, and workers held accountable for assigned performance assurance responsibilities?
  - c) Are oversight program responsibilities appropriately implemented?
  - d) Are the coordinated DOE Headquarters and field element line management oversight programs effective in ensuring that site operations are performed safely, securely, and in compliance with applicable requirements?
- 4) **Oversight Results and Corrective Action Process** – Are the results of oversight activities appropriately validated, documented, communicated, classified, evaluated, tracked and resolved?
- a) Are structured and rigorous processes used for validating the accuracy of information collected during assessments?
  - b) Are deficiencies in programs or performance identified during assessment activities communicated to appropriate management for resolution through a structured issues management process?
  - c) Are these deficiencies appropriately addressed in a timely manner?
  - d) Does DOE line management have effective processes for communicating line oversight results and other issues up and down the management chain?
  - e) Do the DOE line management oversight processes provide sufficient technical basis to allow senior DOE managers to make informed decisions?
  - f) Are findings tracked and resolved through structured and formal processes, including provisions for review of corrective action plans?
  - g) Does DOE line management verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE assessments or reviews are closed?
  - h) Are deficiencies analyzed both individually and collectively to identify causes and prevent recurrences?

**Inspection Criteria #3: Contractor Assurance System** - Contractor management has established a comprehensive and integrated contractor assurance system for ensuring the protection of the public, workers, environment and national security assets and to perform its

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business operations effectively through continuous improvement for environment, safety, and health; safeguards and security; cyber security; emergency management; and business operations. The contractor's assurance system programs and processes are in accordance with the policy and key elements outlined in DOE Policy 226.1, *Department of Energy Oversight Policy*, DOE Order 226.1, *Implementation of Department of Energy Oversight Policy*, Attachment 2, quality assurance requirements (as stated in 10 Code of Federal Regulations (CFR) 830, Subpart A, or other applicable regulations), applicable DOE directives, and contract terms and conditions.

- 1) A program description document that fully details the programs and processes that comprise the contractor assurance system has been developed, approved by contractor management, and forwarded to DOE for review and approval. The program description is reviewed and updated annually and forwarded to DOE for review and approval.
- 2) The contractor assurance system includes assessment activities (self-assessments, management assessments, and internal independent assessments as defined by laws, regulations, and DOE directives such as quality assurance program requirements) and other structured operational awareness activities; incident/event reporting processes, including occupational injury and illness and operational accident investigations; worker feedback mechanisms; issues management; lessons-learned programs; and performance indicators/measures.
- 3) The contractor's assurance system monitors and evaluates all work performed under their contract, including the work of subcontractors.
- 4) Contractor assurance system data is formally documented and available to DOE line management. Results of assurance processes are periodically analyzed, compiled, and reported to DOE line management as part of formal contract performance evaluation.
- 5) Contractors have established and implemented sufficient processes (e.g., self-assessments, corporate audits, third-party certifications or external reviews, performance indicators) for measuring the effectiveness of contractor assurance system elements.
- 6) Requirements and formal processes have been established and implemented that ensure personnel responsible for managing and performing assurance activities possess appropriate experience, knowledge, skills and abilities commensurate with their responsibilities.

**Inspection Activities for Inspection Criteria #3-#7:** Review appropriate contractor directives, policies, program descriptions, procedures, instructions, guidance, and contractual requirements. Review assessment activity schedules for independent, management and other self-assessments and external reviews/inspections. Review assessment reports for adequacy in selected areas (environment, safety, and health; security surveys; performance assurance program performance tests; vulnerability assessment and planning processes; and, limited scope performance testing for physical security and protective forces). Interview contractor and subcontractor managers and staff to determine how assessments are planned and performed and how they are used to improve performance. Interview lessons learned coordinators, work planners, and training personnel and evaluate lessons learned program documentation, including procedures and records, to determine the adequacy of implementation of these programs. Review documentation related to deficiencies (e.g., procedures, completed assessments, employee concern case files, occupational injury and illness reports, operational incident/event reports (e.g., critique minutes), causal analyses and corrective action plans, verification/validation records, and effectiveness determinations). Review trend analysis and performance indicator reports and evaluate the analyses, conclusions, and any related corrective actions.

### **Inspection Lines of Inquiry (Contractor Assurance System):**

- 1) **Oversight Program** – Are the processes which constitute the Contractor Assurance System formal and documented and, when taken together, meet the requirements of DOE O 226.1?

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- a) Does the contractor assurance system program description document (or equivalent) require and adequately describe a comprehensive and integrated set of processes and activities to identify and address program and performance deficiencies, and opportunities for improvement; provide the means and requirements to report deficiencies to the responsible managers and authorities; establish and effectively implement corrective and preventive actions; and, share lessons learned across all aspects of operations as specified in DOE O 226.1, Attachment 2?
  - b) Does the contractor assurance system include self-evaluations of compliance with applicable laws, regulations, national standards, DOE directives, and DOE-approved plans and program documents, site-specific procedures/manuals, criteria review and approach documents, contractual performance objectives, and other contractually mandated requirements?
  - c) Does the contractor assurance system require monitoring and evaluation of all work performed under their contracts, including subcontractors?
  - d) Has the contractor established processes and mechanisms, such as use of corporate audits, third party certifications, or external reviews in designing and implementing the contractor's assurance system for measuring the effectiveness of program elements?
  - e) Has the contractor defined their processes for review and communication to DOE management problems identified with DOE directives or site-specific requirements that conflict, are unclear, or are incomplete?
  - f) Has the program description document been approved by contractor management and DOE?
- 2) **Training & Qualification** – Are personnel implementing Contractor Assurance System processes adequately trained and qualified to perform assigned oversight activities?
- a) Has the contractor defined the requirements for experience, knowledge, skills and abilities for personnel implementing the assurance system elements?
  - b) Has the contractor established, maintained, and implemented appropriate qualification standards for personnel with oversight responsibilities.
  - c) Has the contractor provided and ensured completion of appropriate training for personnel who manage and perform assurance functions must possess experience, knowledge, skills, and abilities commensurate with their responsibilities.
- 3) **Implementation of Program Responsibilities** – Are Contractor Assurance System responsibilities appropriately implemented?
- a) Has the contractor monitored and evaluated all work performed under their contracts, including subcontractors?
  - b) Is DOE line management provided with unfettered access to facilities and contractor activities and to contractor assurance system data?
  - c) Does the contractor submit to DOE for annual review and approval a revised contractor assurance system program description document (or equivalent)?
- 4) **Oversight Results and Corrective Action Process** – Are the results of Contractor Assurance System activities appropriately validated, documented, communicated, classified, evaluated, tracked and resolved?
- a) Are deficiencies in programs or performance identified during assessment activities communicated to appropriate management for resolution through a structured issues management process?
  - b) Are the results of assurance system processes periodically analyzed and reported to DOE in support of formal contract evaluations?

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**Inspection Criteria #4: Contractor Assessment and Performance Measurement -**

Contractor management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance, and this information is effectively used as the basis for informed management decisions to improve performance.

- 1) Line management has established and implemented a rigorous assessment program for performing comprehensive evaluations of all functional areas, programs, facilities, and organizational elements, including subcontractors, with a frequency, scope and rigor based on appropriate analysis of risks. The scope and frequency of assessments are defined in site plans and program documents, include assessments of processes and performance-based observation of activities and evaluation of cross-cutting issues and programs, and meet or exceed requirements of applicable DOE directives.
- 2) Rigorous self-assessments are identified, planned, and performed at all levels periodically to determine the effectiveness of policies, requirements, and standards and the implementation status.
- 3) Appropriate independent internal assessments are identified, planned, and performed by contractor organizations or personnel having the authority and independence from line management to support unbiased evaluations.
- 4) Line managers have established programs and processes to routinely identify, gather, verify, analyze, trend, disseminate, and make use of performance measures that provide contractor and DOE management with indicators of overall performance, the effectiveness of assurance system elements, and identification of specific positive or negative trends. Approved performance measures provide information that indicates how work is being performed and are clearly linked to performance objectives and expectations established by management.
- 5) Line managers effectively utilize performance measures to demonstrate performance improvement or deterioration relative to identified goals, in allocating resources and establishing performance goals, in development of timely compensatory measures and corrective actions for adverse trends, and in sharing good practices and lessons learned.

**Inspection Activities for Inspection Criteria #3-#7: See description after Inspection Criteria #3**

**Inspection Lines of Inquiry (Contractor Assessment and Performance Measurement):**

- 1) **Oversight Program** – Are the processes which constitute the Contractor Assurance System formal and documented and, when taken together, meet the requirements of DOE O 226.1?
  - a) Has the contractor established appropriate, formal processes and procedures for conducting self-assessments and internal independent assessments of all programs, processes, and performance of facilities, systems, and organizational elements, including subcontractors?
  - b) Do these processes and procedures adequately detail the requirements for all types of assessment and performance measurement activities, such as management walkthroughs, surveillance and inspection activities, formal assessments and reviews, and post-job reviews?
  - c) Have guidance and support tools such as checklists, templates, and databases been provided?
  - d) Has the contractor established appropriate and formal processes and procedures for identifying, monitoring, analyzing data measuring the performance of facilities,

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- programs, and organizations and for identifying and implementing needed actions and opportunities for performance improvement?
- e) Do self-assessment processes encourage and facilitate the involvement of workers, supervisors, and managers to develop assessment skills and abilities?
  - f) Have adequate processes, procedures, and guidance been developed to ensure an effective performance indicator program?
  - g) Have the appropriate performance indicators and parameters been selected to effectively measure performance and identify adverse trends in a timely manner to ensure prompt mitigation and corrective actions?
  - h) Do assessment and performance measurement program procedures provide appropriate linkages to the issues management, corrective action, and reporting processes?
- 2) **Training & Qualification** – Are personnel implementing Contractor Assurance System processes adequately trained and qualified to perform assigned oversight activities?
- a) Has the contractor defined the requirements for experience, knowledge, skills and abilities for personnel implementing assessment and performance measurement activities?
  - b) Has the contractor provided and ensured completion of appropriate training for personnel implementing assessment and performance measurement activities?
- 3) **Implementation of Program Responsibilities** – Are Contractor Assurance System responsibilities appropriately implemented?
- a) Does line management routinely monitor and observe the activities of their workforce to ensure activity, facility, and institutional requirements and management expectations are met?
  - b) Are formal, rigorous, effective self-assessments conducted at all levels and in all organizations to determine the adequacy of programs and performance and identify deficiencies needing correction and areas and means for performance improvement?
  - c) Are institutional programs periodically evaluated for adequacy, including assessment of implementation by line and support organizations?
  - d) Are appropriate and effective independent assessments performed, including evaluations of assurance system effectiveness?
  - e) Is the subject, scope, and frequency of self- and independent assessments based on a formal analysis that addresses elements such as risk; regulatory or standards based requirements; type and complexity of work activities, facilities, and conditions; past performance; trend analyses; or management concerns?
  - f) Have subcontractors implemented appropriate and effective self-assessment programs and is the contractor's subcontractor oversight program effectively evaluating performance, providing feedback to subcontractors, and ensuring correction of process and performance deficiencies?
  - g) Are assessment activities sufficiently performance based, including an appropriate focus on observation of work, inspection of field conditions, review of evidence of compliant and effective performance, and effectiveness of corrective actions for previously identified deficient conditions?
  - h) Is the performance indicator program periodically reviewed to ensure the most appropriate sets of data and data analysis parameters are being employed?
  - i) Is performance data being sufficiently analyzed, with conclusions drawn and presented to management, and needed actions identified and taken?
  - j) Are the processes and performance of assessment and performance measurement programs evaluated for effectiveness on an appropriate frequency?

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- 4) **Oversight Results and Corrective Action Process** – Are the results of Contractor Assurance System activities appropriately validated, documented, communicated, classified, evaluated, tracked and resolved?
- a) Are the results of these management awareness activities documented and evaluated to identify needed process and performance improvements, initiate effective corrective actions, and identify lessons learned to be shared with others?

**Inspection Criteria #5: Contractor Event Reporting** - Contractor management has implemented formal programs to identify issues and report, analyze, and address operational events, accidents and injuries.

- 1) Formal programs and processes have been established to identify issues and report, analyze, and address operational events, accidents, and injuries. Events, accidents, and injuries are promptly and thoroughly reported and investigated, including the identification and resolution of root causes and management and programmatic weaknesses, and distribution of lessons learned in accordance with applicable DOE directives (e.g., M 231.1-2, M 231.1-1A, O 151.1A, O 225.1A, N 471.3, O 5480.19, etc.)
- 2) Reporting of operational events, accidents, and injuries are conducted in accordance with applicable nuclear, security, environment, occupational safety and health, and quality assurance requirements, applicable DOE directives, and contract terms and conditions. Trending analysis of events, accidents, and injuries are performed in accordance with structured/formal processes and applicable DOE directives (e.g., M 231.1-2., etc).

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**Inspection Activities for Inspection Criteria #3-#7: See description after Inspection Criteria #3**

**Inspection Lines of Inquiry (Contractor Event Reporting):**

- 1) **Oversight Program** – Are the processes which constitute the Contractor Assurance System formal and documented and, when taken together, meet the requirements of DOE O 226.1?
  - a) Have appropriate, formal processes and procedures been established to detail the requirement for the identification, documentation, investigation, analysis, reporting, and management of issues for operational events (including non-reportable incidents), accidents, occupational injuries and illnesses, and quality assurance and nuclear safety issues?
  - b) Do processes require timely and appropriate identification, documentation, and local notification of operational events, incidents, accidents, occupational injuries and illnesses and nuclear safety issues?
  
- 2) **Training & Qualification** – Are personnel implementing Contractor Assurance System processes adequately trained and qualified to perform assigned oversight activities?
  - a) Has the contractor defined the requirements for experience, knowledge, skills and abilities for personnel implementing assessment and performance measurement activities?
  - b) Has the contractor provided and ensured completion of appropriate training for personnel implementing event, accident, occupational injury and illness, and nuclear safety issue management activities?
  
- 3) **Implementation of Program Responsibilities** – Are Contractor Assurance System responsibilities appropriately implemented?
  - a) Is reporting of operational events, accidents, occupational injuries and illnesses, and nuclear safety issues conducted in accordance with applicable nuclear, security, environment, occupational safety and health, and quality assurance requirements, applicable DOE directives, and contract terms and conditions?
  - b) Are operational events, accidents, occupational injuries and illnesses and nuclear safety issues rigorously investigated in accordance with formal issues management processes that identify and report as required by directives?
  - c) Are operations and engineering organizations, including support organizations, appropriately involved in the identification, assessment, and development of corrective action plans of reportable events, accidents, and occupational injuries and illnesses?
  - d) Are the processes and performance of event, accident, occupational injury and illness and nuclear safety issue management properly evaluated for effectiveness on an appropriate frequency?
  
- 4) **Oversight Results and Corrective Action Process** – Are the results of Contractor Assurance System activities appropriately validated, documented, communicated, classified, evaluated, tracked and resolved?
  - a) Are immediate and compensatory measures to operational events, accidents, occupational injuries and illnesses and nuclear safety issues sufficiently defined and taken as part of line management initial response to operational events, and in the development of follow-on corrective action plans?



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- b) Are trending analysis of events (including non-reportable incidents), accidents, and occupational injuries and illnesses performed in accordance with structured/formal processes and applicable DOE directives?
- c) Are events, accidents, and injuries and illnesses promptly and thoroughly reported and investigated, including the identification and resolution of root causes and management and programmatic weaknesses, and distribution of lessons learned?

**Inspection Criteria #6: Contractor Lessons Learned And Worker Feedback** - Contractor management has established formal programs to communicate lessons learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities.

- 1) Formal processes are in place to identify applicable lessons learned from external and internal sources and any necessary corrective and preventive actions, disseminate lessons learned to targeted audiences, and ensure that lessons learned are understood and applied.
- 2) Formal programs and processes have been established and implemented to solicit feedback from workers and work activities on the effectiveness of work definition, hazard analyses and controls, and implementation for all types of work activities, and to apply lessons learned.
- 3) Line managers effectively identify, apply, and exchange lessons learned with the rest of the DOE complex. Lessons learned identified by other DOE organizations and external sources are reviewed and applied by line management to prevent similar incidents/events.
- 4) Employee concerns related to management of DOE and NNSA programs and facilities are promptly and thoroughly reported and investigated in accordance with applicable DOE directives (e.g., O 442.1A).

**Inspection Activities for Inspection Criteria #3-#7: See description after Inspection Criteria #3**

**Inspection Lines of Inquiry (Contractor Lessons Learned):**

- 1) **Oversight Program** – Are the processes which constitute the Contractor Assurance System formal and documented and, when taken together, meet the requirements of DOE O 226.1?
  - a) Has the contractor established and implemented a formal program that screens lessons learned from external sources for local applicability and evaluates site conditions and processes to determine if actions are needed to apply applicable lessons learned and ensure that actions deemed necessary are implemented?
  - b) Has the contractor established and implemented processes that identify, document, and disseminate lessons learned from investigations of incidents/accidents and occupational injuries, including near misses, and from work activities that warrant communication to other organizations?
  - c) Do site processes require/encourage formal reviews or documented feedback from performers and supervision after completion of maintenance, construction, and experimental activities, or operational evolutions?
  - d) Has the contractor established tools and services to encourage and facilitate the documentation and communication of lessons learned such as templates, guidance documents, and subject matter expert assistance?
  - e) Do work planning and training processes include triggers to prompt or record the research and application of potentially applicable lessons learned?
  - f) Has the contractor established tools that encourage and facilitate the research of lessons learned, such as a searchable database and links to external source sites?
  - g) Has an effective employee concerns program been established and implemented that encourages the reporting of employee concerns and provides thorough, documented

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- investigations, with timely and effective corrective actions and recurrence controls that are tracked to completion?
- h) Are confidentiality and anonymity protections and rights to appeal clearly communicated to employees and effectively implemented during the resolution of concerns?
- 2) **Training & Qualification** – Are personnel implementing Contractor Assurance System processes adequately trained and qualified to perform assigned oversight activities?
- a) Has the contractor provided and ensured completion of appropriate training on the expectations, requirements and processes for the development, identification, sharing, and application of lessons learned?
- 3) **Implementation of Program Responsibilities** – Are Contractor Assurance System responsibilities appropriately implemented?
- a) Have work planners, supervisors, managers, and training staff subscribed to the DOE lessons learned database?
  - b) Are process and performance deficiencies identified through lessons learned processes managed in accordance with the formal issues management and corrective action tracking system process(es)?
  - c) Are the processes and performance for lessons learned and employee concerns programs properly evaluated for effectiveness on an appropriate frequency?
- 4) **Oversight Results and Corrective Action Process** – Are the results of Contractor Assurance System activities appropriately validated, documented, communicated, classified, evaluated, tracked and resolved?
- a) Are innovative, successful practices shared as well as negative lessons learned?
  - b) Are internally generated lessons learned evaluated for their potential value to other DOE facilities and shared with the DOE complex as appropriate?
  - c) Are lessons from experiences within and outside the contractor organization effectively communicated and used in work planning and training?
  - d) Do safety committees or other boards provide effective feedback, including reviewing performance, analyzing data for lessons learned, and assigning and formally tracking action items for improvement?
  - e) Is contractor facility management collecting and disseminating to their staff information, including both lessons learned and good practices from operational events related to their facilities and similar DOE facilities?
  - f) Are the resolutions of employee concerns communicated to concerned individuals with a solicitation of concurrence and identification of appeal mechanisms?

**Inspection Criteria #7: Contractor Issues Management** - Contractor management has established a comprehensive, structured issues management system that provides for the timely and effective resolution of deficiencies.

- 1) Program and performance deficiencies, regardless of their source, are captured in a system or systems that provide(s) for effective analysis, resolution, and tracking. Issues management system elements include structured processes for determination of risk, significance, and priority of deficiencies; evaluation of scope and extent of condition; determination of reportability under applicable requirements; identification of root causes; identification and documentation of corrective actions and recurrence controls to prevent recurrence; identification of individuals/organizations responsible for corrective action implementation; establishment of milestones based on significance and risk for completion of corrective

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actions; tracking progress; verification of corrective action completion; and validation of corrective action implementation and effectiveness.

- 2) Issues management processes include mechanisms to promptly identify the potential impact of a deficiency and take timely actions to address conditions of immediate concern, including stopping work, system shutdown, emergency response, reporting to management, and compensatory measures pending formal documentation and resolution of the issue.
- 3) Processes for analyzing deficiencies, individually and collectively, have been established that are designed to effectively identify programmatic or systemic issues. Line management effectively monitors progress and optimizes the allocation of assessment resources in addressing known systemic issues.
- 4) Processes for communicating issues up the management chain to senior management have been established and based on a graded approach that considers hazards and risks. Line management receives periodic information on the status of identified deficiencies and corrective actions and holds organizations and individuals accountable for timely and effective completion of actions. Line management has executed graded mechanisms such as independent verification and performance-based evaluation to ensure that corrective action and recurrence controls are timely, complete, and effective. Closure of corrective actions and deficiencies are based on objective, technically sound, and verified evidence. The effectiveness of corrective actions is determined on a graded basis and additional actions are completed as necessary.

**Inspection Activities for Inspection Criteria #3-#7: See description after Inspection Criteria #3**

**Inspection Lines of Inquiry (Contractor Issues Management):**

- 1) **Oversight Program** – Are the processes which constitute the Contractor Assurance System formal and documented and, when taken together, meet the requirements of DOE O 226.1?
  - a) Have comprehensive processes and procedures been established and implemented that provide for the consistent, timely, and effective collection, analysis, and resolution of process and performance deficiencies and other issues, regardless of their source? Are separate processes and tracking tools compatible and sufficiently integrated to facilitate consistent implementation, trending, and performance measurement?
  - b) Does the issues management program include processes (including ORPS and PAAA) and tools that address the following essential elements:
    - i) Determining risk, significance and priority?
    - ii) Evaluating the scope and extent of condition or deficiency?
    - iii) Determining and ensuring reportability in accordance with DOE or regulatory requirements?
    - iv) Analyzing for root and contributing causes using a graded approach?
    - v) Development of effective corrective action plans that include recurrence controls that address identified root and contributing causes?
    - vi) Assigning and changing ownership of issues, action plan development, and corrective action implementation?
    - vii) Milestones for completion of corrective/preventive actions and requirements for revisions of milestone dates?
    - viii) Tracking of progress of actions?
    - ix) Verification that actions are complete?
    - x) Validation of the effectiveness of corrective/preventive actions using a graded approach?

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- xi) Ensuring that the status of issues management is communicated to management and individuals and organizations are held accountable for performing their assigned responsibilities for managing issues?
  - c) Have formal policies and processes been established and communicated for rapidly determining if deficiencies or conditions pose immediate and/or significant risk of harm to workers, the public, or the environment and provide for interim actions such as stopping work, system shutdown, or other compensatory measures pending formal processing of the issue?
- 2) **Training & Qualification** – Are personnel implementing Contractor Assurance System processes adequately trained and qualified to perform assigned oversight activities?
- a) Has the contractor defined the requirements for experience, knowledge, skills and abilities for personnel implementing issues management activities?
  - b) Has the contractor provided and ensured completion of appropriate training for personnel implementing issues management activities?
- 3) **Implementation of Program Responsibilities** – Are Contractor Assurance System responsibilities appropriately implemented?
- a) Are issues (including lower level deficiencies) periodically formally analyzed collectively to identify adverse trends or areas of weakness that require corrective or preventive actions?
  - b) Are adverse trends and needed corrective actions formally documented and addressed using the formal issues management process?
  - c) Are the processes and performance for the issues management program properly evaluated for effectiveness on an appropriate frequency?
- 4) **Program Effectiveness** – Are the Contractor Assurance System processes effective in ensuring that site operations are performed safely, securely, and in compliance with applicable requirements?
- a) Are the above issues management program elements being effectively implemented?

United States Government

Department of Energy (DOE)  
Savannah River Operations Office (SR)

# memorandum

DATE: May 9, 2006

REPLY TO

ATTN OF: SRPD (D. A. Jackson, 803-952-8212)

SUBJECT: New Federal Oversight Requirements Issued by DOE P 226.1 and DOE O 226.1 and Addressed by Recommendation 2004-1 to be Implemented at all DOE Sites (Letter, Eggenberger to Bodman, 3/3/06)

TO: Dr. Inés R. Triay, Chief Operating Officer for Environmental Management (EM-3), HQ

References: (1) Conference Call, Patti Bubar and Field Offices, week of 3/6/06

(2) Telephone Request from EM Action Lead (Terry Tracy), to Hooker, SR, 3/20/06

As requested, attached is my input for response to the Defense Nuclear Facilities Safety Board's March 3, 2006, letter. It contains the results of our technical analysis of the points discussed in the letter and its accompanying report.

As you and I have discussed, I have identified some staffing issues and have taken steps to correct these issues. My ongoing analysis and the January 2006 Office of Independent Oversight (OA) review identified a staffing concern resulting from an increase in Safety Basis work in conjunction with the continuing focus to improve Safety System Oversight (SSO) positions and performance. The number of current staff with nuclear criticality safety expertise has also been adversely affected by the unanticipated loss of senior engineering staff. As detailed in my corrective action plan for the OA Review, I have obtained approval to recruit three engineering personnel and I plan to seek authority to recruit additional SSO personnel as needed pending the completion of the 226.1 Gap Analysis and Implementation Plan. In the interim, the current staff is balancing SSO and Safety Basis work, and Senior Technical Safety Managers with personnel assigned SSO responsibilities will continue to review assignment of SSO and Safety Basis work to ensure the proper balance of priorities is maintained as additional personnel are recruited, trained, and qualified.

Any questions you or your staff may have may be directed to me or Randall Clendenning at (803) 952-6302.

*//original signed by*  
*William F. Spader for//*  
Jeffrey M. Allison  
Manager

SRPD:DAJ:sl

OESH-06-0114

Attachment:  
SR Response to DNFSB Letter

U.S. Department of Energy (DOE)  
Response to Defense Nuclear Facilities Safety Board (DNFSB) Letter  
“Oversight Programs of the Savannah River Operations Office”  
March 3, 2006

Evaluation:

The DNFSB review of Department of Energy (DOE) Savannah River Operations Office (SR) oversight processes included an assessment of the capability to perform in-depth technical reviews of safety system design during implementation of the new DOE O 226.1 and implementation of the safety system oversight functions. The review presented a differing opinion on: (1) Technical Assessment Program, (2) Management Walkthroughs, and (3) Safety System Oversight (SSO) Program. A discussion on each of these topics follows.

Technical Assessment Program

POC: Donna Jackson (803.952.8212) / Michael Mikolanis (803.208.1223)

Four points concerning technical assessments were identified in the DNFSB Report:

- The technical assessment program procedure provides little guidance for preparing the technical assessment plan.
- The breadth of technical assessment performance by line management other than Facility Representatives is narrower than expected by DOE Order 226.1.
- There is a large gap between performance and expectations in the conduct of programmatic technical assessments.
- Progress toward implementing the requirements of DOE 226.1 has been slow.

The DOE-SR Technical Assessment Program is a mature program based upon the philosophy and requirements of DOE Policy 450.5, “Line Environment, Safety, and Health Oversight.” The review compared the DOE-SR program to the requirements of newly-issued DOE Order 226.1, “Implementation of Department of Energy Oversight Policy,” that had a substantially different philosophy and more prescriptive requirements. (For example, DOE P 450.5 focused on maintaining operational awareness and conducting for-cause assessments, and DOE O 226.1 institutes an extensive baseline assessment plan.) A DOE-SR team has been established to enable DOE-SR to comply with DOE O 226.1 requirements by the deadline, and the items highlighted in the letter will be useful input into this process.

Design Review Capability - DNFSB issues related to the scope of Technical Assessment Program line management assessments are anticipated to be addressed by DOE-SR actions to implement DOE Order 226.1. While the DNFSB review was focused upon assessing capability to implement the new Order, one point concerning DOE-SR’s capability to perform design reviews was highlighted in the DNFSB letter. The DNFSB review looked at the Assistant

Manager for Nuclear Material Stabilization Project (AMNMSP) and the Assistant Manager for Waste Disposition Project (AMWDP) Technical Assessment Programs and noted some inconsistencies in the rigor and thoroughness in which line management assessments reviewed the adequacy of design for facility modifications and the addition of new facilities or processes. These inconsistencies lie primarily in the differences between technical oversight of Management and Operating (M&O) scope of work and technical oversight where the Department acts as the Design Authority.

The ability to perform in-process oversight of engineering activities is essential to ensuring safety is incorporated into the design of nuclear facilities. In most cases, the addition of new facilities and modifications to existing Savannah River Site (SRS) facilities is accomplished by the site M&O contractor. Safety is an important design factor throughout the process, from design initiation to construction and operation. The SR oversight of engineering activity selectively provides validation of M&O performance throughout the process. Technical assessments include both compliance and performance elements, thus ensuring safety from both a requirements approach and as a practical application.

Current M&O oversight consists of a review of safety system capability to perform functions credited in the facility Safety Basis. Technical Assessment Program reviews document M&O implementation of engineering processes related to these systems and independently validate key technical baseline documents that support those safety functions. Where DOE oversight identified problems with M&O engineering process implementation, more in-depth technical review is performed to gage compliance with other design Codes and Standards. This more detailed level of review required oversight personnel with expertise regarding engineering Codes/Standards as well as facility operations and system design. Technical oversight practices described above are consistent with DOE Policy 450.5, *Line Environment, Safety and Health Oversight*.

Recently, SR has separately contracted and directly managed work to design and build nuclear facilities. For this type of work scope, the Department acts as the Design Authority and manages the engineering design activity. As Design Authority, the Department adopts a more active role in establishing design requirements and reviewing the adequacy of engineering deliverables. From a design perspective, ISM documents are established to ensure DOE and contractor roles and responsibilities are clearly established. Personnel with expertise in engineering Codes and Standards are assigned to integrated project teams to execute those responsibilities. Personnel are qualified through the Federal Technical Capabilities Program (DOE P 426.1, "Federal Technical Capability Policy for Defense Nuclear Facilities," 12/10/98).

The majority of the inconsistencies identified by the DNFSB are anticipated to be resolved by the Technical Assessment Program revisions necessary to implement the new DOE Order 226.1. With the exception of adequate nuclear criticality safety expertise (see below), no significant longer-term difficulties have been experienced where implementation of current oversight Policy or Design Authority functions have required design support by subject matter experts. However, application of subject matter expertise will be necessary where the Technical Assessment Program oversight incorporates more in-process review of M&O design activity. As DOE Order 226.1 is implemented at SR, DOE-SR will assess the availability and sufficiency of subject matter expertise pertaining to engineering Codes, Standards, and system/facility design. The results will be incorporated into periodic updates of the five year workforce management plan. This corrective action has been identified under the safety system oversight discussion.

To illustrate the significance of ensuring adequate subject matter expertise staffing levels, AMNMSP performed a review of the impacts incurred due to the recent loss of criticality subject matter expertise. The departure of a key Nuclear Criticality Safety Engineer has resulted in less than desirable oversight coverage. Although staffing actions are underway to recruit additional expertise, oversight of contractor nuclear criticality safety activities has relied more heavily upon performance metrics and contractor self assessments. Additional trained nuclear criticality safety experts would allow oversight to include more frequent field observation of the implementation, effectiveness and usability of controls. (For example, additional resources would enhance DOE's ability to perform more detailed review of the contractor's nuclear criticality safety program, particularly where multiple controls have been identified for a single criticality parameter.)

Inconsistencies in the level of nuclear criticality safety oversight were caused by the unanticipated loss of engineering staffing. AMNMSP actions to recruit additional nuclear criticality safety expertise and qualify an existing engineer on this subject correct this problem and were previously identified in the safety system oversight discussion. While additional engineering staffing is needed, no other subject matter expertise gaps have been identified. In the interim, several completed activities and ongoing initiatives were identified as compensatory measures to enhance current nuclear criticality safety oversight:

- DOE-SR requested a Headquarters (HQs) External Independent Review (EIR) Team of the "best" Criticality Safety Engineers in the DOE Office of Environmental Management (EM) complex. That EIR was recently completed and the results of the review will be used to improve Washington Savannah River Company (WSRC) and DOE criticality safety performance.
- In July 2005, in response to AMNMSP and the Site Manager's expressed concerns, all of H-Canyon operations were stood down until a complete review of all criticality procedures was conducted. The 2006 Environment, Safety and Health (ES&H) noted the "significantly improved conduct of operations" as a result of this stand down.
- As sponsor of the Nuclear Safety Council (NSC), AMNMSP has helped increase NSC coverage of nuclear criticality safety topics to strengthen NSC safety oversight, assessment and review of this topic. The Executive Technical Management Review Board (ETMB) is also revising the way the NSC functions, and the NSC will report status updates and issues to the ETMB on a regular basis as one of the four designated supporting committees.
- AMNMSP has requested two dedicated reviews of contractor use of the "Criticality Performance" metric (which presently is indicating a significant improvement in criticality activities) and one of those was held at the last AMNMSP monthly Senior Manager Business meeting. Additionally, the DOE Nuclear Safety Council will periodically review criticality performance and this metric in the future.
- An upgraded version of the Site Issues Management and Technical Assessment System (SIMTAS) (installed November 2005 – February 2006) program will provide improved assessment documentation and tracking.
- AMNMSP is in the process of updating its Annual Assessment Plan and is creating more comprehensive and prescriptive assessment standards and metrics.



Corrective Action(s):

<u>Action</u>	<u>Status</u>
Establish a DOE-SR team for DOE O 226.1	Complete
Enable DOE-SR to comply with DOE O 226.1 requirements by the deadline	In Progress

Management Walkthroughs

POC: Donna Jackson (803.952.8212)

Two points concerning Management Walkthroughs were identified in the DNFSB Report:

- The implementation of management walkthroughs varies widely depending on the level of management support for the activity.
- The performance of an office can be greatly biased in the performance indicators by one individual.

Management Walkthroughs enhance management's knowledge of field conditions and activities and shows management interest and support to the workers. Both the managers and the facilities benefit from this program. Issues identified during the conduct of a Management Walkthrough are fed to either facility or program staff, as appropriate, for follow-up and are documented in SIMTAS. The level of activity in Management Walkthroughs is affected by other contractor oversight activities. For example, an individual may show little to no management walkthrough activity during a time period when they are conducting technical assessments.

The Management Walkthrough Program is designed to be flexible, allowing the heads of technical organizations (Assistant Managers and Office Directors) to determine the most appropriate implementation of the program for their organization within the expectations set by the DOE-SR Site Manager. Technical employees at grades GS-14 and above are eligible for participation in the program. The number of participating employees ranges from 2 to 20 across the organizations; with such small groups, it occasionally happens that the performance of one individual can bias the performance results of an organization.

Management Walkthrough performance indicators are issued monthly. These indicators provide information on the hours spent by each organization in walkthroughs and the number of walkthroughs conducted, performance against monthly goals, and overall performance. Beginning January 3, 2006, these performance indicators became available to all DOE-SR employees on demand via the web-based Site Issues Management and Technical Assessment System (SIMTAS). In addition to the performance indicators, standard reports can be generated showing management walkthrough information categorized by facility, person, grade level, or organization. Recently, the Deputy Manager for Cleanup (DMC) reviewed Management Walkthrough data for the first two quarters of fiscal year 2006 by grade level, with special attention to senior management's performance. The DMC review concluded that improvement is needed in program execution to ensure that the Site Manager's goals and objectives for management oversight and presence in the field are met. Corrective actions will be identified and implemented as part of our overall implementation of DOE O 226.1.

Corrective Action(s):

No additional corrective actions were identified.

Safety System Oversight (SSO)

POC: Michael Mikolanis (803.208.1223)

Three points concerning safety system oversight were identified in the DNFSB report:

- Relevance of assessments credited for fulfilling practical factors identified in the SSO qualification card.
- Implementation of SSO responsibilities has been given a lower priority relative to other responsibilities assigned to SSO personnel.
- Facility-based approach to implement SSO functions created engineers highly familiar with one facility, yet relies upon the sufficiency and availability of engineers with more in-depth expertise with a particular system or engineering discipline.

SSO functions at SR are assigned to engineering personnel responsible for review and approval of Documented Safety Analyses and technical assessments at their assigned nuclear facilities. These facility engineers represented an efficient approach to deploy engineering personnel who were both knowledgeable of a facility's safety systems and accountable for oversight of their design, maintenance and operation. Where complex design or engineering discipline issues are encountered, facility engineers are augmented with expertise provided by subject matter experts.

In 2004, DOE-SR defined knowledge, skills and ability requirements associated with implementation of the SSO function. Three supervisors qualified as Senior Technical Safety Managers (STSM) were designated as qualifying officials in order to maintain a consistent application of management expectations during initial qualification of SSO candidates. Qualification cards and related training were subsequently established, personnel assigned SSO responsibilities completed qualifications, and SSO candidate qualification was approved by the line Assistant Manager following completion of qualification knowledge and practical factor requirements. In November 2005, implementation was assessed by representatives from the Federal Technical Capability Panel. As noted in the DNFSB letter, initial implementation of the function at SR has produced results. Oversight effectiveness will continue to mature as lessons learned are incorporated.

Application of facility engineer SSOs, augmented where necessary with subject matter experts, provides a flexible means for management to balance the priority of SSO and safety basis oversight activities while maintaining the ability to assess emergent facility engineering issues.

Issues related to the relevance of SSO functions have been reviewed by line managers with personnel assigned SSO responsibilities. Based upon facility walkthroughs performed by the Nuclear Material Program Division Director (former Nuclear Material Engineering Division Director) and final oral examinations performed by line management concluded the qualification process confirmed facility engineers had the requisite knowledge, skills and abilities to implement the SSO function. After review, DOE-SR concluded the lower priority assigned to implementing SSO responsibilities in AMNMSP facilities was primarily caused by an unanticipated increase in Safety Basis work in conjunction with acceleration of F-Area

deactivation activities, the accelerated de-inventory of FAMS, the addition of new K-Area projects, and the unexpected loss of personnel providing facility engineer and subject matter expertise. As part of the ongoing analysis for implementation of DOE Order 226.1, staffing levels have been reassessed and revised; and authority to recruit additional personnel has been obtained. As an ongoing compensatory measure, STSMs with personnel assigned SSO responsibilities will continue to review assignment of SSO and Safety Basis work to ensure a balance of priorities is maintained as additional personnel are recruited, trained, and qualified. Further, over the next year, the AMNMSP will perform an STSM review of the technical performance of personnel assigned SSO responsibilities. The objective of this monitoring is to validate that the quality demonstrated during qualification process is maintained during implementation of the function and to ensure these personnel continue to develop expertise in their respective areas.

As noted in the DNFSB assessment report, line management augments the expertise of facility engineers assigned SSO responsibilities where in-depth issues are encountered regarding the design, operation and maintenance of safety systems. Where specialized subject matter expertise is not available at SR, contract support or personnel at other sites are relied upon to provide expertise. DOE-SR will assess the availability and sufficiency of subject matter expertise supporting facility engineers assigned SSO responsibilities. The results will be incorporated into the next periodic update of the five year workforce management plan. With the exception of adequate nuclear criticality safety expertise, no significant, longer-term difficulties have been experienced where facility engineer oversight of safety systems and line management review of system design required support by subject matter experts. Nuclear criticality safety staffing levels have been reassessed and authority to recruit additional personnel has been actively sought and approved. No additional compensatory measures are deemed necessary at this time.

Review of the availability and sufficiency of existing subject matter expertise, recruitment of additional personnel, and monitoring of SSO implementation will help ensure that:

1. Qualified engineering personnel are in place to oversee contractor design, maintenance and operation of safety systems.
2. A proper balance of priorities is maintained between Safety Basis and SSO activities.

Corrective Action(s):

<u>Action</u>	<u>Status</u>
Assess the current availability and sufficiency of AMNMSP and AMWDP SSO, nuclear criticality safety, and Safety Basis expertise.	Complete
Where warranted, initiate action to recruit additional personnel.	In Progress
Assess the current availability and sufficiency of subject matter expertise to assist facility engineers during the review of safety systems. Results will be incorporated into the next update of the five year workforce management plan.	Upcoming