U.S. Department of Energy

Review of the Idaho Operations Office Safety System Oversight Program

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Assessment Team

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EXECUTIVE SUMMARY

A Federal Technical Capability Panel (FTCP) team from DOE Richland Operations Office (RL) and the DOE Idaho Operations Office (NE-ID) reviewed the NE-ID Safety System Oversight (SSO) Program and its implementation. The team observed that NE-ID recognized the need for a safety system oversight program over two years ago and developed and implemented a comprehensive oversight program. This program used the services of the System Subject Matter Experts (SSMEs), Facility Representatives (FRs), Subject Matter Experts (SMEs), and Senior Technical Safety Managers (STSMs). The SSMEs are nuclear safety analysts who are assigned to work in facilities. The SSMEs team with the FRs, and have at their access the SMEs to provide any additionally needed functional area technical knowledge. The program is overseen by STSM qualified management. Interviews and documents reviewed led the team to conclude that NE-ID had implemented an effective oversight program. The established concepts and processes that are in place are recognizably very similar to the requirements and goals of DOE M 426.1-1A, *Federal Technical Capability Panel Manual.* NE-ID is in the process of updating their program to be compliant with DOE M 426.1-1A. NE-ID SSO line management demonstrates responsibility and ownership of the SSO Program and its implementation to ensure safety in their nuclear facilities. In addition to the opportunities for improvement, which are within the direct control of NE-ID, the team observed that there is a need for the FTCP to clarify and define "stop work" as it applies to "facilities and equipment" in DOE M 426.1-1A.

Several Noteworthy Practices as well as Areas of Improvement were identified.

Noteworthy Practices:

PGM-NP-1 Over two years ago, NE-ID recognized the need for safety system oversight. This was accomplished by an oversight program, which included SSMEs, FRs, SMEs and STSMs.

TQ-NP-2 One of the Waste Management SSME Qualification Cards reviewed included a thorough set of walk through qualification criteria.

MG-NP-3 NE-ID Individual Development Plans (IDP's) included job-related training and education for the SSO to complete qualification.

MG-NP-4 NE-ID had proactively performed several self-assessments as part of the SSO program. Also, a corrective action plan resulting from the self-assessments had been developed.

OP-NP-5 The SSMEs (SSOs) regularly received and reviewed facility equipment operations status reports.

OP-NP-6 The SSO had direct access to an automated contactor configuration management system that included current detailed information in areas such as design, work management, procurement, and maintenance.

Opportunities for Improvement:

PGM-OFI-1 The SSO program was observed to lack clearly defined roles, responsibilities, accountabilities and authorities (R2A2s) for the SSO personnel. It lacked interface requirements with the contractor cognizant System Engineer (SE), the NE-ID FRs and the NE-ID SMEs. Other program documents (e.g., Individual Performance Agreements, Position Descriptions, ID M 360.A-1) did not reflect the SSO function in detail.

PGM-OFI-2 The SSO program was observed to not define which vital safety systems (VSS) are "active" or "passive" to allow appropriate grading of oversight.

TQ-OFI-3 A partial gap analysis of the requirements in the SSME qualification Card against the knowledge, skills and abilities (KSA's) identified in DOE M 426.1-1A, Chapter III, Sections 1, 5a and 5b indicated incomplete compliance.

TQ-OFI-4 The Individual Qualification Card did not identify which safety systems are applicable to the card.

OP-OFI-5 SSO personnel did not perform routine oversight of the contractor implementation of DOE O 420.1A requirements for the SE program.

OP-OFI-6 SSO personnel did not perform routine VSS assessments to ensure reliable operations (e.g., equipment configuration, material condition, effects of aging).

OP-OFI-7 SSO Stop Work authority was observed to not be consistent with DOE M 426.1-1A in that it does not include facilities and equipment protection.

INTRODUCTION

In May 2004, the Department of Energy (DOE) published DOE M 426.1-1A, *Federal Technical Capability Panel Manual,* and thus institutionalized the Safety System Oversight (SSO) Program to monitor the performance of Vital Safety Systems in DOE nuclear facilities and to evaluate effectiveness of the Contractor's cognizant System Engineer (SE) Program. DOE M 426.1-1A describes the SSO function, including roles and responsibilities of SSO personnel (SSO), and defines the knowledge, skills and abilities to be incorporated into technical qualification programs for SSOs.

The objective of this review was to evaluate progress by the Idaho Operations Office (NE-ID) in developing and implementing an SSO program. The reporting format described in DOE M 426.1-1A was used to document results of the review.

SCOPE AND METHODOLOGY

The review was performed by the Richland Operation Office (RL) Director for Safety and Engineering Division, the RL SSO Team Lead and the RL Confinement Ventilation System (CVS) SSO. NE-ID Alternate Federal Technical Capabilities Panel (FTCP) Agent and a NE-ID SSO provided assistance on behalf of NE-ID in the conduct of this review. Criteria and Review Approach Documents (CRADs) developed by the FTCP were used to evaluate actions taken to define and implement the SSO Program at NE-ID. The CRADs are provided in Attachment A of this report.

The review was performed by assessment of the System Subject Matter Experts (SSME) program documents developed previously by NE-ID. The SSME program is closely analogous to the SSO program and NE-ID has expressed that the SSME program will be adapted to meet the SSO program requirements. Therefore the SSO criteria were applied to the SSME program documentation and personnel.

Interviews were conducted with line management, SSME (SSO) personnel, and contractor personnel responsible for vital safety systems (VSS). The results of document reviews and interviews are documented in the "Results" section of this report and broken out by the four CRADs functional areas: Program (PGM); Training and Qualification (TQ); Management (MG); and Oversight Performance (OP).

RECORDS REVIEWED/PERSONNEL INTERVIEWED

Documents reviewed:

1. SSO Qualification Cards
2. NE-ID M 360.A-1, *ID Technical Qualification Program Manual*
3. List of SSOs
4. Individual Qualification Records
5. Individual PDs
6. Individual Performance Agreements
7. DSAs
8. NE-ID SSO Assessment Reports
9. Self-Assessment Reports on NE-ID SSO Program
10. List 253, *Vital Safety Systems*
11. Self-Assessment Corrective Actions
12. BBWI SE Qualification Program
13. BBWI SE Qualification Card
14. BBWI List of SEs
15. BBWI SE Training Status
16. BBWI (Competency Commensurate with Requirements) Document
17. Facility Representative Qualification Card
18. Safety Systems at INEEL Nuclear Facilities, January 2002

Personnel interviewed:

1. Assistant Manager, Technical Support
2. SSO Program Coordinator
3. NE-ID Waste Operations Program Director
4. NE-ID Deputy Assistant Manager for Operations
5. NE-ID Test Reactor Area (TRA) SSO
6. NE-ID Radioactive Waste Management Complex SSO
7. NE-ID INTEC SSO
8. NE-ID Training Team Lead
9. NE-ID TRA Facility Representative (FR)
10. NE-ID RWMC FR
11. NE-ID INTEC FR
12. BBWI Director of Engineering
13. BBWI RWMC Operations Manager
14. BBWI Spent Nuclear Fuel Operations Manager
15. BBWI RWMC System Engineer
16. BBWI INTEC System Engineer

RESULTS

Program (PGM)

OBJECTIVE

PGM.1 An effective SSO Program is established by the Field Element Manager to apply engineering expertise to maintain safety system configuration and to assess system condition and effectiveness of safety management program implementation.

Discussion of Results:

The NE-ID SSO program was observed to be established and documented. NE-ID management has shown strong support for the SSO program. This was in evidence during interviews conducted with the Site Manager, Assistant Manager, Team Leader, and SSOs. They were aware of the advantages of a sound SSO program and provided support, not only in words but with the appropriate time and resources.
Over two years ago, NE-ID recognized the need for a safety system oversight program. NE-ID developed this oversight program using the services of the System Subject Matter Experts (SSMEs), Facility Representatives (FRs), Subject Matter Experts (SMEs), and Senior Technical Safety Managers (STSMs). This forward-thinking, planning, development, and implementation are considered **noteworthy [PGM-NP-1].**

Some requirements from DOE M 426.1-1A are not in the current program documents. However, NE-ID had performed a self-assessment of the program against the requirements of DOE M 426.1-1A where they have self-identified a number of improvements. This assessment agreed with their self-assessment and identified some additional issues with respect to implementation of DOE M 426.1-1A. NE-ID is

currently preparing documentation to define their program in accordance with DOE M 426.1-1A and will factor these findings with their self-identified improvements in developing the new documentation. The following is an **opportunity for improvement [PGM-OFI-1]** during development of the new SSO program. The SSO program needs to clearly define the roles, responsibilities, accountabilities and authorities (R2A2s) for the SSO personnel compliant with DOE M 426.1-1A. It needs to include interface requirements with the contractor SE, NE-ID FR, and NE-ID SMEs. It needs to cover SSO responsibilities related to event occurrences, VSS assessments, system health status reports, investigation and root cause analysis, external oversight organizations, effects of aging on VSS, contractor work control, material condition, change control, and system maintenance. Other program documents (e.g., Individual Performance Agreements, Position Descriptions, ID M 360.A-1) need to be updated to reflect the SSO function.

NE-ID has six SSME (SSO) personnel with over 100 VSS between them to oversee. Were these VSS all active, the oversight task, as described in DOE M 426.1-1A, would tend to be overwhelming. Defining VSS as "active" or "passive" would allow appropriate grading of the oversight applied. The **opportunity for improvement [PGM-OFI-2]** exists during the development of the DOE M 426.1-1A compliant documents to make this distinction and apply the appropriate grading.

Training and Qualification (TQ)

OBJECTIVE
TQ.1 SSO personnel and supervisors with responsibilities for SSO personnel are appropriately trained and qualified, or are in the process of achieving qualification.

Discussion of Results:

An **opportunity for improvement [TQ-OFI-3]** was identified during the review of the current SSME qualification standards and qualification cards that showed a careful gap analysis of the KSAs identified in DOE M 426.1-1A, Chapter III, Sections 1, 5a and 5b should be performed during the development of the new SSO qualification standards and cards.

The current qualification cards for individuals do not identify which VSS the SSO has responsibility assigned. During the development of the new qualification cards this should be viewed as an **opportunity for improvement [TQ-OFI-4]**.

One of the Waste Management SSME qualification cards included some very thorough walk through qualification criteria. This criteria can be used by the SSO during qualification and by SSO supervision to determine the individual's depth of understanding. This practice is viewed as **noteworthy [TQ-NP-2]**.

Management (MG)

OBJECTIVE

MG.1 SSO Supervisors effectively perform their SSO program responsibilities.

Discussion of Results:

NE-ID-SSO personnel report to Senior Technical Safety Managers. SSO personnel have been selected and assigned responsibility for vital safety systems in facilities. Qualification cards for SSOs are tailored to their assigned systems and were approved by STSMs. One SSO had not yet completed the qualification process, however, a qualification card had been established and a scheduled completion date had been set. The NE-ID training team lead provides a periodic status of upcoming qualification due dates. The review team identified a **noteworthy** practice **[MG-NP-3]** that the Individual Development Plan (IDP) for the yet-to-be qualified SSO included training and education to complete qualification that was linked to the job identified functions.

The review team examined the Individual Performance Agreements (IPAs) for some of the SSOs. The IPA is a supervisory performance agreement tailored to each individual and is the basis for personnel accountability. SSO responsibilities are included and maintained in individual performance plans.

SSO management periodically evaluates the program effectiveness. The review team identified a **noteworthy** practice **[MG-NP-4]** that NE-ID had proactively performed several self-assessments as part of the SSME program. One of the assessments used criteria developed from DOE-M-426.1-1A. A corrective action plan resulting from the self-assessments have been developed which addresses many of the weaknesses identified in this report.

Oversight Performance (OP)

OBJECTIVE

OP.1 Collectively, SSO personnel provide oversight of the Contractors' System Engineer Program.

OP.2 SSO personnel are knowledgeable and familiar with assigned safety systems and/or programs.

Discussion of Results:

The NE-ID contractor has implemented the System Engineer (SE) Program requirements identified in DOE O 420.1A. Although it appears that the SSO personnel frequently interact with the contractor SE's, it wasn't clear that the SSO personnel evaluated the SE implementation of the requirements established by DOE O 420.1A. An **opportunity for improvement [OP-OFI-5]** exists to formally establish and implement expectations for

oversight of contractor SE program, particularly for oversight of the SE program for periodic system assessments of system operability, reliability and material condition. In addition to frequent interactions with the facility SE's, SSOs attend facility meetings such as the Plan of the Day meetings. It was identified as a **noteworthy** practice **[OP-NP-5]** that the SSOs receive and review facility equipment operations status reports.

While the SSO personnel review periodic facility equipment reports and interface with the FR in various reviews such as equipment failure causal analysis reviews ("critiques"), there was little direct independent assessment and evaluation of equipment configuration and material condition. An **opportunity for improvement [OP-OFI-6]** exists to perform routine assessments to ensure reliable operations of assigned safety systems. It is recommended that the SSO personnel also assess and evaluate the effects of aging on systems and consider the appropriateness of system maintenance and surveillance activities with respect to performance of safety functions.

NE-ID SSO personnel are safety system experts, but they are not necessarily functional area (i.e. confinement ventilation) experts. The SSO personnel have subject matter experts for various disciplines (i.e. fire protection, radiation control etc.) available as needed to support various reviews or issues resolution.

The contractor has developed an integrated data system which links design, configuration management, procurement, work management and maintenance information for the vital safety system components. It is a **noteworthy [OP-NP-6]** that the SSOs have this available as an oversight tool, giving them direct access to the contactor's automated configuration management system.

The review team found that the NE-ID SSO Stop Work authority is not consistent with DOE M 426.1-1A. While NE-IDs Stop Work policy is likely adequate to protect personnel from imminent threat to safety and health it does not include facilities and equipment protection and therefore is viewed as an **opportunity for improvement [OP-OFI-7].** Discussions with NE-ID SSOs and FRs indicated that some confusion existed on the scope of stop work authority for imminent hazard to the worker vs. the impending failure of a safety system. These two outcomes were viewed differently with regard to exercising stop work authority. This issue has been identified in several of the DOE Complex's site SSO program assessments and should be examined by the FTCP to clarify the expectations with regard to stop work to protect impending failure of a safety system.

CONCLUSIONS and RECOMMENDATIONS

NE-ID has many working elements of an effective SSO Program in the current NE-ID SSME program. However, NE-ID needs to formally document SSO role and evaluate the requirements of DOE M 426.1-1A, *Federal Technical Capability Panel Manual* to identify and address any gaps. NE-ID SSO line management demonstrates responsibility and ownership of the SSO Program and its implementation in their nuclear facilities.

One area that requires FTCP attention is the definition of "stop work". The review team found that the NE-ID SSO Stop Work authority is not consistent with DOE M 426.1-1A. This same inconsistency has been identified at several DOE sites. It is likely that NE-ID's current stop work policy is adequate because it focuses on imminent threats to personnel safety. However, the review team believes there is a need for the complex FTCP to clarify and define "stop work" as it applies to "facilities and equipment."

Several Noteworthy Practices as well as Areas of Improvement were identified.

Noteworthy Practices:

PGM-NP-1 Over two years ago, NE-ID recognized the need for safety system oversight. This was accomplished by an oversight program, which included SSMEs, FRs, SMEs and STSMs.

TQ-NP-2 One of the Waste Management SSME Qualification Cards reviewed included a thorough set of walk through qualification criteria.

MG-NP-3 NE-ID Individual Development Plans (IDP's) included job-related training and education for the SSO to complete qualification.

MG-NP-4 NE-ID had proactively performed several self-assessments as part of the SSO program. Also, a corrective action plan resulting from the self-assessments had been developed.

OP-NP-5 The SSMEs (SSOs) regularly received and reviewed facility equipment operations status reports.

OP-NP-6 The SSO had direct access to an automated contactor configuration management system that included current detailed information in areas such as design, work management, procurement, and maintenance.

Opportunities for Improvement:

PGM-OFI-1 The SSO program was observed to lack clearly defined roles, responsibilities, accountabilities and authorities (R2A2s) for the SSO personnel. It lacked interface requirements with the contractor cognizant System Engineer (SE), the NE-ID FRs and the NE-ID SMEs. Other program documents (e.g., Individual Performance Agreements, Position Descriptions, NE-ID M 360.A-1) did not reflect the SSO function.

PGM-OFI-2 The SSO program was observed to not define which vital safety systems (VSS) are "active" or "passive" to allow appropriate grading of oversight.

TQ-OFI-3 A partial gap analysis of the requirements in the SSME qualification Card against the knowledge, skills and abilities (KSA's) identified in DOE M 426.1-1A, Chapter III, Sections 1, 5a and 5b indicated incomplete compliance.

TQ-OFI-4 The Individual Qualification Card did not identify which safety systems are applicable to the card.

OP-OFI-5 SSO personnel did not perform routine oversight of the contractor implementation of DOE-O-420.1A requirements for SE program requirements.

OP-OFI-6 SSO personnel did not perform routine VSS assessments to ensure reliable operations (e.g., equipment configuration, material condition, effects of aging).

OP-OFI-7 SSO Stop Work authority was observed to not be consistent with DOE M 426.1-1A in that it does not include facilities and equipment protection.

ATTACHMENT: Safety System Oversight (SSO) Program Implementation Assessment Criteria Review and Approach Documents (CRADs)

-- Original signed by
Pete J. Garcia Jr.

-- Original signed by
Thomas A. Ellis

Attachment A

Criteria and Review Approach Documents (CRADs)

Safety System Oversight (SSO) Program Implementation Assessment Criteria and Review Approach Documents (CRADs)

Revision 0

PROGRAM (PGM)

OBJECTIVE

PGM.1 An effective SSO Program is established by the Field Element Manager to apply engineering expertise to maintain safety system configuration and to assess system condition and effectiveness of safety management program implementation.

Criteria

PGM.1.1 The SSO Qualification Program is part of the Technical Qualification Program (DOE M 426.1-1A, Chapter III, Section 1, 2.b (1)).

PGM.1.2 The SSO Program establishes appropriate training, qualification, and performance requirements for SSO personnel and the supervisors are held accountable for achieving them (DOE M 426.1-1A, Chapter III, Section 1, 2.b (2)).

PGM.1.3 The safety systems and safety management programs included in the SSO Program align with those systems and programs identified in the applicable Documented Safety Analysis (DOE M 426.1-1A, Chapter III, Section 1, 4.c).

PGM.1.4 Safety system oversight requirements are defined and implemented, for example, functions, responsibilities, and authorities of personnel assigned to perform safety system oversight and their interface/support of Facility Representatives are clearly defined, and SSO staffing needs are identified and there is a plan or process to ensure future staffing needs are met and maintained (DOE M 426.1-1A, Chapter III, Section 1, 2.b (3) & (4)).

PGM.1.5 Affected DOE and contractor managers understand the SSO role and relationship to Facility Representatives and the contractor's cognizant System Engineers, and provide the necessary access and support (DOE M 426.1-1A, Chapter III, Section 1, 3.d).

PGM.1.6 Qualifying Officials are assigned to sign site-specific Qualification Cards (DOE M 426.1-1A, Chapter III, Section 1, 2.b (6)).

PGM.1.7 The SSO Program contains features to verify that SSO candidates possess the required level of knowledge and/or skills to perform assessments and investigations to confirm performance of safety systems in meeting

established safety and mission requirements (DOE M 426.1-1A, Chapter III, Section 1, 2.b (5)).

Approach

Record Review: Review documentation (e.g., site technical qualification program documents, SSO Program Plan, SSO Program procedures, qualification cards and/or standards, internal memorandums, Documented Safety Analyses, etc.) which establish the SSO Program and describe its implementation to determine that the program is complete and comprehensive.

Interviews: Interview management personnel with responsibilities for implementing and executing the SSO program to determine if they are familiar with the role of SSO personnel relative to the Facility Representatives and the contractor's cognizant system engineers, if they provide adequate resources for training, qualification, future staffing, and performance of SSO personnel, and if they appropriately qualified to perform their assigned role in the SSO program. Interview qualifying officials to determine if they are familiar with their role and responsibility, they are currently qualified, and they are performing their assigned role.

Field Observation: Evaluate any process used by or directed by the Field Element Manager to determine the effectiveness of SSO Program Performance.

TRAINING AND QUALIFICATION (TQ)

OBJECTIVE

TQ.1 SSO personnel and supervisors with responsibilities for SSO personnel are appropriately trained and qualified, or are in the process of achieving qualification.

Criteria

TQ.1.1 Supervisors with responsibilities for SSO personnel maintain Senior Technical Safety Manager (STSM) qualification (DOE M 426.1-1A, Chapter III, Section 1, 2.c (1)).

TQ.1.2 Site-specific qualification standards and cards have been developed and a documented process is implemented to assure that SSO candidates meet, at a minimum, the SSO knowledge, skills, and abilities specified in the *Federal Technical Capability Manual* DDOE 426.1-1A, Chapter III, Section 1, 5.a & 5.b)

TQ.1.3 All SSO personnel have completed or are completing the General Technical Base Qualification Standard (DOE-STD-1146-2001) and one or more Functional Area Qualification Standard(s) in a technical area linked to their individual job descriptions (DOE M 426.1-1A, Chapter III, Section 1, 4.a).

TQ.1.4 All SSO personnel have completed or are completing the site-specific qualification standard associated with assigned safety systems (DOE M 426.1-1A, Chapter III, Section 1, 4.a).

TQ.1.5 SSO Supervisors have established methods to assign initial qualification dates, track progress toward qualification, and ensure retraining/requalification occurs as required for each SSO candidate in the qualification process (DOE M 426.1-1A, Chapter III, Section 1, 2.c (4) through (6)).

Approach

Record Review: Review qualification records to establish that supervisors and managers of SSO are qualified as an STSM and that SSO personnel are trained and qualified. Review qualification and requalification schedules, staffing plans, training plans, travel funding, etc. to determine that sufficient resources are provided for training, retraining, qualifying, and requalifying SSO personnel.

Interviews: Interview supervisors, training coordinators, SSO personnel, and budget personnel to establish that training and qualification plans and schedules are being executed as planned and that sufficient resources are provided to meet the schedules.

Field Observation: Observe activities associated with the qualification process, such as qualification boards, exams, walk throughs to determine that the training and qualification process is implemented and functioning effectively.

MANAGEMENT (MG)

OBJECTIVE

MG.1 SSO Supervisors effectively perform their SSO program responsibilities.

Criteria

MG.1.1 Site-specific SSO qualification standards and cards are developed (DOE M 426.1-1A, Chapter III, Section 1, 2.c (2)).

MG.1.2 Supervisors have identified and approved SSO candidate selection (DOE M 426.1-1A, Chapter III, Section 1, 2.c (3)).

MG.1.3 Supervisors of SSO personnel have established SSO personnel qualification schedules and are tracking progress (DOE M 426.1-1A, Chapter III, Section 1, 2.c (4)).

MG.1.4 Supervisors facilitate SSO qualification (e.g., ensure sufficient time and training are provided to complete qualification tasks) (DOE M 426.1-1A, Chapter III, Section 1, 2.c (5)).

MG.1.5 Supervisors ensure SSO personnel are trained and qualified to perform assigned duties (DOE M 426.1-1A, Chapter III, Section 1, 2.c (6)).

MG.1.6 SSO responsibilities are included and measured in Individual Performance Plans (DOE M 426.1-1A, Chapter III, Section 1, 2.c (7)).

MG.1.7 Ensure SSO qualifications are maintained current by training and assignments planned in Individual Development Plans (DOE M 426.1-1A, Chapter III, Section 1, 2.c (8)).

MG.1.8 SSO Supervisors periodically evaluate program effectiveness and implement corrective actions in a timely manner (DOE M 426.1-1A, Chapter III, Section 1, 2.c (9)).

Approach

Record Review: Review qualification cards, Individual Performance Plans, and other SSO program documents and procedures to establish that managers and supervisors are effectively performing their responsibilities as defined in the SSO program. Review other documentation used by supervisors to establish SSO program effectiveness and implementation of corrective actions.

Interviews: Interview supervisors and managers to establish that they are familiar with their assigned roles, they perform their assigned duties, monitor the effectiveness of the SSO program and ensure any identified corrective actions are implemented.

Field Observation: Observe any activities associated with SSO program effectiveness evaluations and/or corrective action implementation.

OVERSIGHT PERFORMANCE (OP)

OBJECTIVE

OP.1 Collectively, SSO personnel provide oversight of the Contractors' System Engineer Program.

Criteria

OP.1.1 Oversight performed by SSO personnel establishes that the contractor System Engineer Program is effectively implemented with goals, objectives, and performance measures (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

OP.1.2 SSO personnel maintain communication with the contractor's cognizant System Engineer (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

OP.1.3 SSO personnel monitor performance of the contractor's cognizant System Engineer Program (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

OP.1.4 SSO personnel attend selected contractor meetings with Facility Representatives and contractor personnel responsible for system performance (e.g., cognizant System Engineers, design authorities, and program managers) (DOE M 426.1-1A, Chapter III, Section 1, 2.a (3)).

Approach

Record Review: Review oversight documentation, such as SSO assessment reports, SSO walk throughs, correspondence, SSO activity records or logs, corrective action documents, etc. to establish that SSO personnel are overseeing implementation and execution of the contractor system engineer program. Review the contractor's system engineer program to determine whether there are any program weaknesses or deficiencies that have not been identified by SSO personnel.

Interviews: Interview SSO personnel, Facility Representatives, and contractor system engineers to establish the level of interface between SSO personnel and the contractor's cognizant system engineers.

Field Observation: Observe any oversight activities of the contractor's system engineer program performed by SSO personnel.

OBJECTIVE

OP.2 SSO personnel are knowledgeable and familiar with assigned safety systems and/or programs.

Criteria

OP.2.1 A qualified SSO is, in fact, knowledgeable of the system status, performance, maintenance, operations, design, and vulnerabilities of their assigned systems or programs. This is evidenced by:

- OP.2.1.1 SSO personnel regularly and routinely review periodic system health/status reports (DOE M 426.1-1A, Chapter III, Section 1, 2.a (2)).
- OP.2.1.2 SSO personnel review test results, investigation reports, root cause analyses, etc (DOE M 426.1-1A, Chapter III, Section 1, 2.a (2)).
- OP.2.1.3 SSO personnel interface with external organizations that can provide insights on performance (DOE M 426.1-1A, Chapter III, Section 1, 2.a (2)).
- OP.2.1.4 SSO personnel perform assessments, periodic evaluations of equipment configuration and material condition and safety management program implementation (DOE M 426.1-1A, Chapter III, Section 1, 2.a (3)).
- OP.2.1.5 SSO personnel evaluate the effects of aging on system equipment and components, the adequacy of work control and change control processes, and consider the appropriateness of system maintenance and surveillance activities with respect to reliable performance of safety function(s) (DOE M 426.1-1A, Chapter III, Section 1, 2.a (3)).
- OP.2.1.6 SSO personnel identify technical issues and participate actively in the resolution of the issues.

OP.2.2 Safety systems and safety management programs have established goals, objectives, and performance measures

OP.2.3 SSO personnel perform evaluations of contractor troubleshooting, investigations, root cause evaluations, and selection and implementation of corrective actions, in conjunction with Facility Representatives (DOE M 426.1-1A, Chapter III, Section 1, 2.a (4)).

OP.2.4 SSO personnel provide support to other Federal employees, as appropriate. (DOE M 426.1-1A, Chapter III, Section 1, 2.a (5))

OP.2.5 SSO personnel assess contractor compliance with relevant DOE regulations, industry standards, contract requirements, safety basis requirements, and other system requirements (DOE M 426.1-1A, Chapter III, Section 1, 2.a (6)).

OP.2.6 SSO personnel confirm configuration documentation, procedures, and other sources of controlling information are current and accurate (DOE M 426.1-1A, Chapter III, Section 1, 2.a (7)).

OP.2.7 SSO personnel report potential or emergent hazards immediately to DOE line management and Facility Representatives (DOE M 426.1-1A, Chapter III, Section 1, 2.a (8)).

OP.2.8 SSO personnel stop tasks, if required, to prevent imminent impact to the health and safety of workers and the public, to protect the environment, or to protect the facility and equipment and immediately notify the on-duty or on-call Facility Representative (DOE M 426.1-1A, Chapter III, Section 1, 2.a (8)).

OP.2.9 SSO personnel serve, when assigned, as qualifying officials in the development or revision of Functional Area Qualification Standards, mentor assigned backups, and qualify other candidates to the Functional Area Qualifications Standards needed to achieve Safety System oversight qualification (DOE M 426.1-1A, Chapter III, Section 1, 2.a (9)).

OP.2.10 SSO personnel maintain cognizance of the appropriate funding and resources to maintain and improve safety systems (DOE M 426.1-1A, Chapter III, Section 1, 2.a (10)).

OP.2.11 Methods have been established for SSO personnel to routinely communicate system/program performance information and issues with STSMs and the Field Office Manager (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

Approach

Record Review: Review oversight documentation, such as SSO assessment reports, SSO walk throughs, correspondence, SSO activity records or logs, corrective action documents, etc. to establish that SSO personnel are performing required oversight. Review contract requirements and their flow down through the contract to the safety systems and safety management programs to establish the effectiveness of SSO personnel oversight that the contractor complies with all requirements relative to safety systems and programs. Review a sample of the safety system health reports, safety system test reports, safety system investigation reports, safety system root cause analyses, etc. to determine the effectiveness of SSO personnel knowledge and familiarity with this information.

Interviews: Interview SSO personnel to determine their knowledge of and familiarity with assigned safety systems and safety management programs, and the reports that the contractor may generate in relation to the systems and programs.

Field Observation: Observe SSO personnel walk downs and other activities in the field to establish the level of SSO personnel knowledge and familiarity of safety systems.