

memorandum

DATE: October 1, 2013

REPLY TO

ATTN OF: EM-93: Moon

SUBJECT: **ENVIRONMENTAL MANAGEMENT PROCEDURE 2.2, REVISION 5, SAFETY
SYSTEM OVERSIGHT PROGRAM – APPROVED**

TO: Oak Ridge Office of Environmental Management Staff

The attached subject procedure is issued for your use. Please read and familiarize yourself with it and implement as necessary. It will be placed onto the Office of Environmental Management's Office Policies and Procedures webpage (<http://www.oakridge.doe.gov/External/Default.aspx?tabid=120>), where it will be available for future reference.

If you have questions, please contact Jay Mullis at 241-3706 or Sherry Moon at 576-0109.



Mark Whitney, Manager
Oak Ridge Office of Environmental Management

Attachment

U.S. Department of Energy
Oak Ridge Office
Office of Environmental Management
Procedure

SAFETY SYSTEM OVERSIGHT PROGRAM

EM-2.2
Revision 5

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Sherry D. Moon Date
Instrumentation & Control Safety System Oversight

Approved: Mark Whitney 10/1/2013
Mark Whitney, Manager Date
Oak Ridge Office of Environmental Management



EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

REVISION LOG

Revision	Description of the Revision	Issue Date
0	Initial Issue.	10/06/2003
1	HQ and ORO formally issued directives requiring the updating of the EM implementing document.	12/07/2005
2	DOE Order 420.1A, <i>Facility Safety</i> , was revised to DOE Order 420.1B Changes made to reflect the current Oak Ridge Office Environmental Management organizational structure.	05/30/2008
3	Update references and eliminate out-of-date material.	11/10/2009
4	Added Required Reading, stop work actions, reporting requirements, ORION documentation requirements, and updated references.	11/03/2011
5	Changes made to reflect the current Oak Ridge Office of Environmental Management organizational structure. ORION documentation requirements are replaced with e-Pegasus requirements.	TBD

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ACRONYMS

CSE	Cognizant System Engineer
DOCS	Document Online Coordination System
DOE	Department of Energy
ES&H	Environment, Safety, and Health
ESQDD	Engineering, Safety and Quality Division Director
EM	Environmental Management
FR	Facility Representative
FRA	Functions, Responsibilities, and Authorities
HQ	Headquarters
OREM	Oak Ridge Office of Environmental Management
PFPD	Portfolio Federal Project Director
PM	Project Manager
RR	Required Reading
SCMS	Science Management System
SME	Subject Matter Expert
SSO	Safety System Oversight
SSOC	Safety System Oversight Coordinator
STD	Standard
TDG	Training and Development Group
TQP	Technical Qualification Program

1.0 PURPOSE

To establish requirements and responsibilities for the U.S. Department of Energy (DOE) Oak Ridge Office of Environmental Management (OREM) Safety System Oversight (SSO) Program to ensure SSO staffing and coverage adequately meet the requirements to oversee active safety systems and the contractors' Cognizant System Engineer (CSE) Programs. This document does not change any requirements contained in any DOE Directive. Therefore, if any conflicts arise between this OREM Directive and a DOE Directive, the requirements contained in the DOE Directive shall take precedence.

2.0 SCOPE

This procedure applies to staff identified as SSO personnel to cover Environmental Management (EM) identified active safety systems. This procedure describes responsibilities for SSO personnel, their supervision and management, and those directly supporting the SSO function.

3.0 REFERENCES AND DEFINITIONS

3.1 References

Note: The latest revision of references should be used.

- 3.1.1 DOE Order 420.1, *Facility Safety*
- 3.1.2 DOE Guide 420.1-1, *Nonreactor Nuclear Safety Design Criteria and Explosive Safety Criteria Guide For Use With DOE O 420.1, Facility Safety*
- 3.1.3 DOE Policy 450.4, *Safety Management System Policy*
- 3.1.4 DOE Order 433.1, *Maintenance Management Program for DOE Nuclear Facilities*
- 3.1.5 DOE-STD-1073-2003, *Configuration Management Program*
- 3.1.6 DOE-STD-3024-98, *Content of System Design Descriptions*
- 3.1.7 DOE Order 426.1, *Federal Technical Capability*
- 3.1.8 EM-3.3, *Integrated Assessment Program*
- 3.1.9 Science Management System (SCMS); Environment, Safety, and Health (ES&H) Management System; Environment, Safety, and Health (ES&H) Oversight of Contractors; Procedure 1. *Stop Work and Facility Shutdown*
- 3.1.10 DOE-STD-1063-2011, *Facility Representatives*

3.2 Definitions

- 3.2.1 Active Safety Systems. Safety systems credited in safety basis documents as controls that perform important roles to protect the health and safety of the public, workers, and the environment, including safety-class systems,

safety-significant systems, and other systems that, in the judgment of line management, perform an important defense-in-depth safety function.

- 3.2.2 Operational Awareness. (DOE-STD-1063-2011) Operational awareness refers to those activities taken by DOE line personnel to maintain cognizance of overall facility or activity status, major changes planned, and overall safety posture. Activities include routine day-to-day monitoring of work performance through facility tours/walkthroughs, work observation, document reviews, meeting attendance and participation, and ongoing interaction with contractor workers, support staff, and management.
- 3.2.3 SSO Personnel. Individuals assigned responsibility for overseeing assigned active safety systems to ensure they will perform as required by the safety basis and other applicable requirements. Highly qualified personnel perform assessments and investigations to confirm performance of assigned active safety systems in meeting established safety and mission requirements and review sections of the documented safety analysis related to these systems. With respect to the assigned SSO personnel's expertise, the individual has technical understanding of the system requirements, design, operation, testing, and maintenance and knowledge of relevant codes, standards, procedures, and acceptance criteria.
- 3.2.4 Stop Work Actions. Stop Work Actions shall be initiated to cease:
- Activities that pose an imminent danger to the health and safety of workers or the public,
 - Activities that could adversely affect the safe operation of, or could cause serious damage to, a facility, or
 - Activities that could result in the release of radiological or chemical effluents to the environment in excess of regulatory limits.
- 3.2.5 Walkthrough. (DOE-STD-1063-2011) A tour through a facility to maintain operational awareness of the facility.

4.0 RESPONSIBILITIES

4.1 Manager for Oak Ridge Office of Environmental Management (OREM)

- 4.1.1 Ensures EM contractors, where applicable, develop a CSE Program according to DOE Order 420.1.
- 4.1.2 Ensures staffing and coverage adequately meet the EM SSO requirements to oversee active safety systems and the contractor's CSE Program with respect to EM resource needs.

4.2 Engineering Safety and Quality Division Director (ESQDD)

- 4.2.1 Ensures assignment of SSO personnel to specific safety systems as necessary.
- 4.2.2 Ensures that the EM Active Safety System List is accurate and maintained current.
- 4.2.3 Identifies necessary coverage areas for SSO personnel with respect to the EM missions and programs.
- 4.2.4 Ensures identification of resource needs for SSO coverage.
- 4.2.5 Ensures that the EM SSO Technical Qualification Program (TQP) Memo is initiated and approved for each EM SSO candidate.
- 4.2.6 Ensures appropriate training is provided and documented for SSO personnel roles and responsibilities, and coordinates training with the Oak Ridge Office Training and Development Group (TDG).
- 4.2.7 Ensures SSO personnel qualifications are maintained current.
- 4.2.8 Provides data input into SSO Program performance measures and, in addition, extracts data taken from the performance measure analyses and identifies and oversees implementation of program improvements where appropriate.
- 4.2.9 Ensures a periodic SSO Program self-assessment is scheduled.
- 4.2.10 Designates required reading (RR) material, which may include but is not limited to the following:
 - New and revised procedures
 - Significant Lessons Learned
 - Any other information determined to be of significant importance

4.3 SSO Coordinator (SSOC)

- 4.3.1 Schedules and coordinates periodic assessments of the EM contractors' CSE Programs.
- 4.3.2 Schedules and coordinates periodic SSO program self-assessments in accordance with EM-3.3, *Integrated Assessment Program*, as requested by the ESQDD.
- 4.3.3 Recommends to the ESQDD suggested formal and informal assessments to be conducted by SSO personnel.
- 4.3.4 Coordinates the tracking and trending of issues and findings from EM SSO Program audits/assessments/walkthroughs.
- 4.3.5 Tracks RR and ensures documentation of RR is provided to the TDG.

4.3.6 Ensures that applicable SSO information be provided on Share Point.

4.4 Safety System Oversight (SSO) Personnel

4.4.1 Performs SSO responsibilities identified in DOE Order 426.1.

4.4.2 Provides oversight of contractor planned actions regarding assigned active safety systems. Ensure OREM Manager's expectations are met.

4.4.3 Provides technical support to Facility Representatives (FR), subject matter experts (SMEs), and Federal Project Directors/Project Managers in evaluating the significance and impact of identified system problems and other issues related to assigned active safety systems, as necessary.

4.4.4 Participates on operational readiness reviews, readiness assessments, safety basis implementation reviews, project reviews, and other reviews and assessments as assigned.

4.4.5 Informs management of contractor actions within assigned active safety system area.

4.4.6 Qualifies and maintains qualifications in accordance with the TQP requirements for the assigned active safety system.

4.4.7 As requested, participates in budget reviews to ensure adequate funding is requested to maintain system operability and reliability.

4.4.8 When performing assessments of assigned active safety system, utilizes DOE Order 420.1 to perform the assessments.

4.4.9 Completes the SSO RR program by reading and understanding the assigned RR and acknowledging completion of the RR assignments. Sends confirmation that RR has been completed to the SSOC and TDG.

4.4.10 Documents oversight activities in ePegasus.

4.4.11 Tracks and trends issues and findings related to assigned safety system.

5.0 PROCEDURE

DOE SSO personnel typically will be assigned based on engineering disciplines and necessary areas of coverage as defined by the ESQDD. Thus, SSO personnel may be assigned to cover areas such as criticality alarms, fire detection and suppression, instrumentation and control, ventilation, and mechanical systems.

EM is staffed by FRs that have day-to-day operational oversight responsibility for assigned facilities and SMEs that provide support for oversight of specific environment, safety, and health programs (e.g., Fire Protection, Criticality Safety, Radiation Protection, and Facility Safety). The SSO position is not meant to infringe on these duties or those of EM Federal Project Directors/Project Managers (PMs), but rather to enhance EM oversight and provide a focused view on specific systems. The FRs, SMEs, and SSO personnel will be required, on occasion, to provide simultaneous oversight with input on

the same contractor operations. Coordination between individuals performing each of these functions will be necessary to avoid duplication and provide consistent input to EM management and to the contractor. The assigned SSO personnel will be expected to provide this coordination for issues involving the active safety systems to which they are assigned.

5.1 Programmatic Action Steps (Management)

- 5.1.1 Review and verify the accuracy of the EM Active Safety System List.
- 5.1.2 Ensure that the training and qualification requirements for SSO personnel assigned to EM systems are defined.
- 5.1.3 Ensure SSO personnel are assigned based on established resource needs.
- 5.1.4 Ensure SSO personnel have competence commensurate with assigned responsibility.
- 5.1.5 Schedule and coordinate periodic SSO program self-assessments in accordance with EM-3.3, *Integrated Assessment Program*.

5.2 Oversight Action Steps (SSOs)

Note: DOE SSO duties and responsibilities are documented in DOE Order 426.1, Attachment D. Additional guidance may be obtained from the other references in this procedure.

- 5.2.1 Perform walkthroughs and assessments of assigned safety systems in accordance with Environmental Management Procedure EM-3.3.
- 5.2.2 Record the results of walkthroughs and assessments in ePegasus.
- 5.2.3 Send e-mail notification of ePegasus entries to the Portfolio Federal Project Director (PFPD), PM, FR, SSOC, and ESQDD.
- 5.2.4 Initiate a Stop Work Action to cease activities when an imminent danger situation is identified. Reference 3.1.9 provides general guidance on issuance of Stop Work Actions and examples of actions or activities that may warrant Stop Work Actions.
- 5.2.5 If a Stop Work Action is initiated, notify the following OREM management as soon as possible:
 - Manager for Oak Ridge Office of Environmental Management
 - Facility Operations Division Director
 - Portfolio Federal Project Director
- 5.2.6 Document Stop Work Action in ePegasus with complete description of the issue that caused it.
- 5.2.7 Perform reliability, availability, and maintainability reviews of assigned systems, including configuration and material condition.

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- 5.2.8 Evaluate if adequate numbers of qualified contractor system engineers have been assigned for the identified active safety systems.
- 5.2.9 Evaluate the training and qualifications of the contractor system engineers to determine if commensurate with the systems to which they are assigned and are maintained up to date.
- 5.2.10 Evaluate if contractor system engineers are adequately involved with the operation, maintenance, and configuration of their systems and periodically observe the contractor system engineer in the performance of system condition walkdowns for assigned active safety systems.
- 5.2.11 Participate on reviews and assessments as requested involving safety system(s).
- 5.2.12 Maintain cognizance of assigned safety system status, including but not limited to operability, safety basis compliance, planned activities, configuration management, and related documentation.
- 5.2.13 Report potential or emergent hazard(s) immediately to FRs, PM, PFPD, and ESQDD.

6.0 RECORDS

6.1 Program Records

Records generated as a result of implementation of this procedure may include but are not limited to:

- Assessment plans
- Assessment reports
- Walkthrough reports
- Corrective action plans
- Correspondence on changes to corrective action plans, including extensions and rejections
- Letters transmitting SSO documents (e.g., reports, plans, comments, etc.)
- Letters requesting corrective action plans
- Corrective action plan approval letters
- Evidence files for corrective action closure
- Any other assessment correspondence
- RR material and associated documentation

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6.2 Records Maintenance

The RR records generated as a result of this procedure will be provided to TDG for inclusion in the SSO personnel's Technical Qualification Record. Other records will be maintained in ePegasus, Document Online Coordination System (DOCS), or the OREM mailroom files.