

# memorandum

DATE: May 15, 2008

REPLY TO

ATTN OF: EM-971:Hawks

SUBJECT: **EM PROCEDURE EM-2.2, REVISION 2, SAFETY SYSTEMS OVERSIGHT - APPROVED**

TO: Environmental Management Staff, EM-90

The attached procedure, EM-2.2, Safety Systems Oversight, is issued for your use. Please read and familiarize yourself with it. It will be placed onto the Office of Environmental Management's Office Policies and Procedures Webpage, (<http://www.oakridge.doe.gov/em/EMprocedures/indexEMSOPS2.htm>) as soon as possible and will be available for future reference.

If you have any questions or concerns about this procedure, please contact me at 576-0742 or Brenda Hawks at 576-2503.

Sincerely,



Stephen H. McCracken

Assistant Manager for

Environmental Management

Attachment



**Department of Energy  
Oak Ridge Office  
Office of Environmental Management  
Procedure**

**ENVIRONMENTAL MANAGEMENT  
SAFETY SYSTEMS OVERSIGHT**

**EM-2.2  
Revision 2**

**Prepared:**

Brenda L. Hawks  
Procedure Owner

5-1-08  
Date

**Approved:**

JHM  
Assistant Manager for Environmental Management

5/15/08  
Date

**TABLE OF CONTENTS**

REVISION LOG .....3

ACRONYMS .....4

1.0 PURPOSE .....5

2.0 SCOPE .....5

3.0 REFERENCES AND DEFINITIONS .....5

    3.1 References.....5

    3.2 Definitions .....5

4.0 RESPONSIBILITIES .....6

    4.1 Assistant Manager for Environmental Management .....6

    4.2 Facility Operations and Safety Management Division Director .....6

    4.3 Nuclear Safety Basis Team Leader .....6

    4.4 Quality Assurance Division Director .....7

    4.5 Safety System Oversight Personnel .....7

    4.6 Relationship Between Facility Representatives and SSO Personnel .....8

5.0 PROCEDURE .....8

    5.1 Programmatic Action Steps .....8

    5.2 Oversight Action Steps .....8

6.0 RECORDS .....9

    6.1 Program Records.....9

    6.2 Records Maintenance.....9

### REVISION LOG

<b>Revision</b>	<b>Description of the Revision</b>	<b>Issue Date</b>
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

## ACRONYMS

AMEM	Assistant Manager for Environmental Management
AMESH	Assistant Manager for Environment, Safety, and Health
DOE	Department of Energy
EM	Office of Environmental Management
ORO	Oak Ridge Office
SME	subject matter expert
SSO	safety systems oversight

U.S. Department of Energy Oak Ridge Office Office of Environmental Management	Procedure No. EM-2.2, Rev. 2 Environmental Management Safety Systems Oversight Effective Date: May 30, 2008	Page: 5 of 9
---	---	--------------

## 1.0 PURPOSE

To establish requirements and responsibilities for the U.S. Department of Energy (DOE) Oak Ridge Office (ORO) Office of Environmental Management (EM) Safety System Oversight (SSO) Program to ensure EM SSO staffing and coverage meet the requirements to adequately oversee active safety systems and the contractor's systems engineer program. This document does not change any requirements contained in any DOE Directive or ORO Order 420, Chapter XV. Therefore, if any conflicts arise between this EM Directive and ORO Order 420, Chapter XV, or 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 EM identified active safety systems. This procedure describes responsibilities for SSO personnel, their supervision and management, and those directly supporting the safety system oversight function.

## 3.0 REFERENCES AND DEFINITIONS

### 3.1 References

- 3.1.1 DOE Order 420.1B, 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 433.1A, Maintenance Management Program for DOE Nuclear Facilities.
- 3.1.5 DOE-STD-1073-93, Guide for Operational Configuration Management Program.
- 3.1.6 DOE-STD-3024-98, Content of System Design Descriptions.
- 3.1.7 DOE Order 5480.20A, Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities.
- 3.1.8 DOE Manual 426.1-1A, Federal Technical Capability Manual.
- 3.1.9 ORO Order 420, Chapter XV, Safety System Oversight Program.
- 3.1.10 EM-3.3, Integrated Assessment Program.
- 3.1.11 ORO Manual 220.1, Oak Ridge Office Assessment Program Manual.

### 3.2 Definitions

- 3.2.1 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.

U.S. Department of Energy Oak Ridge Office Office of Environmental Management	Procedure No. EM-2.2, Rev. 2 Environmental Management Safety Systems Oversight Effective Date: May 30, 2008	Page: 6 of 9
---	---	--------------

- 3.2.2 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.

#### 4.0 RESPONSIBILITIES

##### 4.1 Assistant Manager for Environmental Management

- 4.1.1 Ensures EM contractors, where applicable, develop a System Engineer Program according to DOE Order 420.1B, Attachment 2, Chapter V.
- 4.1.2 Ensures staffing and coverage meet the EM SSO requirements to adequately oversee active safety systems and the contractor's systems engineer program with respect to EM resource needs.
- 4.1.3 Approves EM SSO assignments.

##### 4.2 Facility Operations and Safety Management Division Director

- 4.2.1 Ensures assignment of SSO personnel to specific safety systems as necessary. Coordinates with appropriate EM Supervisors and Assistant Manager for Environment, Safety, and Health (AMESH) when relying on their personnel to perform SSO responsibilities to ensure the requirements for Supervisors with Responsibilities for SSO Personnel identified in reference 3.1.11 are met.

**NOTE:** In situations where EM is relying on personnel from the Office of Assistant Manager for Environment, Safety, and Health (AMESH) to support SSO responsibilities, the following requirements found in Reference 3.1.9 for SSOs are shared with the AMESH:

- Ensuring that SSO personnel are identified and trained.
- Establishing qualification schedules.
- Facilitating SSO personnel qualification.
- Ensuring Individual Performance Plans contain SSO responsibilities.
- Ensuring SSO personnel qualifications are maintained current.
- Ensuring SSO supervisors maintain their qualifications as Senior Technical Safety Managers.

##### 4.3 Nuclear Safety Basis Team Leader

- 4.3.1 Ensures that the EM Active Safety System List is accurate and maintained up to date.
- 4.3.2 Identifies necessary coverage areas for SSO personnel with respect to the EM missions and programs.
- 4.3.3 Ensures identification of resource needs for SSO coverage.
- 4.3.4 Ensures appropriate training is provided and documented for SSO personnel roles and responsibilities, and coordinates training with the ORO Human Capital Assessment Group.

U.S. Department of Energy Oak Ridge Office Office of Environmental Management	Procedure No. EM-2.2, Rev. 2 Environmental Management Safety Systems Oversight Effective Date: May 30, 2008      Page: 7 of 9
---	---

- 4.3.5 Ensures SSO personnel qualifications are maintained current.
- 4.3.6 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.
- 4.3.7 Ensures a periodic SSO Program self-assessment is scheduled and conducted in coordination with the Quality Assurance Division Director.

**4.4 Quality Assurance Division Director**

- 4.4.1 Schedules and coordinates periodic assessments of the EM contractor's systems engineer program.
- 4.4.2 Schedule and coordinate periodic SSO program self-assessments in accordance with EM-3.3, Integrated Assessment Program, as requested by the Nuclear Safety Team Leader.
- 4.4.3 Coordinates EM's assistance in periodic assessment of line management SSO programs performed by the AMESH, when assistance is requested.
- 4.4.4 Coordinates the EM communication and sharing of lesson learned among SSO personnel established by the AMESH.
- 4.4.5 Coordinates the tracking and trending of issues and findings from EM SSO Program audits/assessments/walkthroughs.

**4.5 Safety System Oversight Personnel**

- 4.5.1 Perform SSO responsibilities identified in Reference 3.1.9, paragraph 4.f, as applicable.
- 4.5.2 Provide oversight of contractor planned actions regarding assigned active safety systems. Ensure EM's expectations are met.
- 4.5.3 Provide technical support to Facility Representatives, 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.
- 4.5.4 Participate on operational readiness reviews, readiness assessments, safety basis implementation reviews, and project review teams as assigned.
- 4.5.5 Informs management informed of contractor actions within assigned active safety system area.
- 4.5.6 Qualify and maintain qualifications in accordance with the Technical Qualification Program requirements for the assigned active safety system.
- 4.5.7 As requested, participate in budget reviews to ensure adequate funding is requested to maintain system operability and reliability.
- 4.5.8 When performing assessments of assigned active safety system, utilize DOE Order 420.1B to perform the assessments.
- 4.5.9 Participate when requested on reviews and assessments for safety system(s).
- 4.5.10 Participate in the Facility Representative Required Reading program as dictated by EM-3.2 *Facility Representative Program*.

#### **4.6 Relationship Between Facility Representatives and SSO Personnel**

- 4.6.1 Facility Representatives are responsible for monitoring the safety performance of assigned facilities and day-to-day operational status. In addition, they are responsible for communicating system and facility status and operational performance information to EM management.
- 4.6.2 SSO personnel coordinate with Facility Representatives to ensure, and report to EM management, the operability of specific safety systems. SSO personnel focus on the ensuring their assigned active safety system will perform as required by the safety basis and other applicable requirements, while Facility Representatives focus on the integrated operational aspects of these systems and programs with respect to the overall operation of their assigned facilities.

### **5.0 PROCEDURE**

DOE SSO personnel typically will be assigned based on engineering disciplines and necessary areas of coverage as defined by the Facility Operations and Safety Management Division Director/Nuclear Safety Team Leader. 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 Facility Representatives 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, Facility Safety). The SSO position is not meant to infringe on these duties or those of EM Federal Project Directors/Project Managers, but rather to enhance EM oversight and provide a focused view on certain specific systems. The Facility Representatives, SMEs, and SSO personnel will, on occasion, be required to simultaneously provide management 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)**

- 5.2.1 Perform walkthroughs and formal assessments of assigned safety systems.
- 5.2.2 Perform reliability, availability, and maintainability reviews of assigned systems, including configuration and material condition.

- 5.2.3 Evaluate if adequate numbers of qualified contractor system engineers have been assigned for the identified active safety systems
- 5.2.4 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.
- 5.2.5 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.
- 5.2.6 Participate on reviews and assessments as requested involving safety system(s).

## **6.0 RECORDS**

### **6.1 Program Records**

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

1. Assessment plans.
2. Assessment reports.
3. Walkthrough reports.
4. Corrective action plans.
5. Correspondence on changes to corrective action plans, including extensions and rejections.
6. Letters requesting corrective action plans.
7. Corrective action plan approval letters.
8. Evidence files for corrective action closure.
9. Any other assessment correspondence.

### **6.2 Records Maintenance**

Records shall be maintained in accordance with the established ORO EM Records Management System.