



## Department of Energy

Washington, DC 20585

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

Dear Mr. Chairman:

The Office of Environmental Management (EM) has completed its portion of Commitment 9C in the Department of Energy's (DOE's) Implementation Plan (IP) to Improve Oversight of Nuclear Operations, dated October 2006. This IP was in response to the Defense Nuclear Facilities Safety Board Recommendation 2004-1, *Oversight of Complex, High-Hazard Nuclear Operations*. Commitment 9C is to perform a program office self-assessment of safety function assignment at the program office level. The approved EM self-assessment report is enclosed.

Qualified members of my staff conducted this self-assessment in accordance with the expectations delineated by the Deputy Secretary of Energy in his December 27, 2005, memorandum, which was provided to the Board under Commitment 9A. The self-assessment identified one finding and four observations. The finding is that EM Functions, Responsibilities and Authorities document is not current. We will develop a corrective action plan to address the finding and observations, and we expect to complete development of this plan within 30 days.

If you have any further questions, please call me at (202) 586-0738, or Mr. Dae Y. Chung, Deputy Assistant Secretary for Safety Management and Operations, at (202) 586-5151.

Sincerely,

Dr. Inés R. Triay  
 Chief Operating Officer for  
 Environmental Management

Enclosure

cc:  
 Mark Whitaker, HS-1.1  
 Richard Lagdon, Jr., CNE-ESE



2007-03-02 11:33:02  
Environmental

**EM Headquarters  
Self-Assessment of  
Environmental Management  
Safety Functions/Assignments  
Associated with Nuclear Facilities**



**March 2007**

## Summary

The Office of Environmental Management (EM) conducted a self-assessment of safety functions and responsibilities associated with nuclear facilities. The self-assessment was conducted in accordance with the Deputy Secretary of Energy's December 27, 2005, memorandum. The team identified one finding and four observations. The team found that the assignments of nuclear safety responsibilities were identified and specifically assigned. The organizations and individuals who were assigned tasks associated with those responsibilities have the requisite qualifications and expertise to carry out those assignments. In many cases, the team noted formal implementing processes for carrying out the responsibilities. In a few instances, the team identified areas where a formal process or set of expectations could improve performance. The four team members were from the Office of Safety Management and Operations (EM-60) and average over 15 years of safety oversight experience.

### Finding and Observations

The review team noted that the EM Functions, Responsibilities and Authorities document (FRA) is not current. EM reorganized in 2006 and has yet to adopt an approved FRA that reflects the current organization. The team notes that the draft FRA is in the final stages of review and is expected to be issued within the next few months.

Some managers have received 2007 safety delegations without meeting the new five-year Senior Technical Safety Manager (STSM) recertification requirement. EM-60 should ensure future managers meet the new STSM recertification requirement or establish compensating or corrective actions in place prior to recommending approval of the safety delegation(s).

The statements chosen by the team for analysis do not identify prescriptive requirements for the process that carries them out. However, the team feels EM would benefit through formalizing some of these processes and in particular, the review of Startup Notification Reports (SNRs). This could be done by incorporation into the existing Oversight Standing Operating Policy and Procedure (SOPP) or through other direction to the support staff. This guidance might require a quarterly report on the results of a review of the SNRs and identification of issues, expectations for the conduct of the review and expectations for site visits and reviews of field restart processes.

EM cannot demonstrate a process that ensures the annual fire protection summary is provided to the Office of Health, Safety and Security (HSS). By extension, it is possible that the other reports required by the Order are similarly handled in an informal way. EM Headquarters (HQ) may benefit by developing a tracking system to ensure the reports are generated and forwarded in compliance with the Order. Alternatively, the appropriate managers could provide written direction to support staff on expectations for ensuring the tasks are carried out.

EM has not fully developed a formal process to review Requests for Proposals (RFPs) and existing contracts to ensure that the appropriate DOE safety management and Directives requirements are included. EM HQ should determine which support organization is best qualified to perform the task and develop a process to ensure a competent review occurs.

## **Review of Environmental Management Safety Functions Assignments Associated with Nuclear Facilities**

### **Task:**

Perform a self-assessment on assignment of responsibilities or delegation of authorities to Office of Environmental Management (EM) personnel responsible for safety functions associated with nuclear facilities.

### **Scope:**

This self-assessment targets the nuclear safety related responsibilities assigned to the Program Secretarial Officer in two parts. Prior to the two parts is a look at the flow of nuclear safety responsibilities. The first part is focused on the responsibilities that flow through Headquarters (HQ) and are delegated to field element managers and their supporting staff. The second part is focused on the nuclear safety related responsibilities that are not delegated to the field, but are instead carried out by HQ managers and supporting staff.

EM sites that are not part of a larger field element report directly to EM HQ. Many of the nuclear safety responsibilities for those sites have not been delegated to the field. Instead, they have been delegated to the Deputy Assistant Secretary for Safety Management and Operations (EM-60). The functions related to the responsibilities, although physically carried out at HQ, represent "field" delegated authorities, and are assessed under the field delegation section.

### **Methodology:**

The review team will use a sampling approach to assess how effectively EM has managed its delegated responsibilities. The review team will select statements from DOE Orders and regulations related to nuclear safety. Those statements will then be tracked through the EM Functions, Responsibilities and Authorities document (FRA) and letters of delegations to determine which organization and which personnel have received the responsibility to carry out the actions associated with the statement. The review team will then apply the criteria from the Deputy Secretary of Energy Delegations of Safety Authorities memo dated December 27, 2005. From section II, Process Criteria, Part (3) Criteria by which individual and/or organizational capability and/or capacity will be measured:

### **Self-Assessment Criteria for HQ Responsibilities**

1. Individuals and their organizations to whom safety responsibilities are assigned possess the necessary qualifications, experience and expertise to carry out these responsibilities.
2. Organizations with safety responsibilities have the proper framework of processes and procedures to implement the assigned responsibilities.

3. Organizations with safety responsibilities have adequate resources including sufficient funding to carry out assigned responsibilities.

#### Self-Assessment Criteria for Field Delegations

1. The process used for delegations meets the various process attributes established in the Deputy Secretary's memorandum.
2. Delegated individuals and their organizations possess the necessary individual qualifications, experience, and expertise to carry out their delegated safety authorities.
3. Supporting organizations have adequate processes and procedures to implement delegated authorities.
4. Supporting organizations have adequate resources, staffing and funding to implement the delegated authorities.
5. Compensatory measures are established where individuals or organizations do not meet the expectations above.

#### OBJECTIVE:

EM HQ has the management structures and support in place to both effectively manage assigned HQ responsibilities and to effectively evaluate and delegate nuclear safety authorities.

#### CRITERIA:

1. Individuals and their organizations to which safety responsibilities are assigned possess the necessary qualifications, experience and expertise to carry out these responsibilities.
2. Organizations with safety responsibilities have the proper framework of processes and procedures to implement the assigned responsibilities.
3. Organizations with safety responsibilities have adequate resources including sufficient funding to carry out assigned responsibilities.

## **Flow of Nuclear Safety Responsibilities**

### General

The Department utilizes an integrated management systems approach to ensure work is done safely. This approach is reflected in the Integrated Safety Management Systems in place within the Department. Line responsibilities and authorities flow from the Secretary through the Under Secretary of Energy to the Assistant Secretary for Environmental Management (EM-1) to the Field Element Managers.

### OBJECTIVE

EM HQ has the management structures and support in place to both effectively manage assigned HQ responsibilities and to effectively evaluate and delegate nuclear safety authorities.

### CRITERIA

1. Individuals and their organizations to which safety responsibilities are assigned possess the necessary qualifications, experience and expertise to carry out these responsibilities.
2. Organizations with safety responsibilities have the proper framework of processes and procedures to implement the assigned responsibilities.
3. Organizations with safety responsibilities have adequate resources including sufficient funding to carry out assigned responsibilities.

### APPROACH

#### Records

Mission and Functions (on EM Portal)  
Selected EM training and experience records for staff and management  
EM FRA – draft dated March 28, 2007  
Delegation Memo Rispoli to Triay (January 26, 2006)  
Delegation Memo Triay to Chung (March 30, 2007)

#### Interviews

EM COO  
EM-60

#### Observations

## DISCUSSION OF RESULTS

The team noted that EM utilizes the EM FRA to assign safety responsibilities. The team reviewed the draft FRA and believes that all of the required nuclear safety responsibilities are identified and assigned and that the process appears sound. The flow of these responsibilities is clearly delineated in the draft EM FRA. However, the EM FRA is not current. The team was provided a draft FRA and used that draft as the basis for the discussion below.

EM management draws on processes and procedures that are implemented by individuals having clearly assigned authorities and resources, as well as the requisite competencies, i.e., technical and managerial training, experience, to discharge the assigned responsibilities. By memorandum, EM-1 has provided the Chief Operating Officer (EM-3) the authority to delegate safety responsibilities to the field and to others within the EM-3 organization in those cases where delegation to specific field personnel is not deemed appropriate. Further, the nuclear safety responsibilities residing at EM HQ have been delegated to EM-3. EM-3 has delegated additional responsibilities to the Deputy Assistant Secretary for Safety Management and Operations (EM-60). EM-60 is supported by the Offices of Safety Management (EM-61) and Operations Oversight (EM-62). Missions and functions statement are in place and work scope expectations are provided through individual annual performance plans. Tasking is provided by email and verbally on an as needed basis for emerging issues. The line managers' have the education (advanced scientific and engineering degrees) and experience (greater than 15 years each technically and managerially). Both the COO (EM-3) and EM-60 are STMS qualified and have attended the Nuclear Executive Leadership Training (NELT) training. The assigned staff is educated and trained in technical areas, all having over 15 years of experience. There are recognized weaknesses in two technical areas, quality assurance and geotechnical/structural. Currently, staff augmentation from the Central Technical Authority is being used to fill these gaps. Quality assurance staff is in process of being obtained and a job announcement is currently open. For geotechnical/structural, contract support will be used to fill the identified needs.

## CONCLUSIONS

The objective has been met. EM appears to have satisfactory processes and procedures in place, with the exception of finalizing the updated FRA. The EM Offices have clear and specific delegations of authority. The team concludes that the EM Offices and staff are competent and have the requisite technical/scientific education, training and experience to discharge their delegated authorities and responsibilities and assigned task. Staff hiring should continue to be pursued aggressively, rather than reliance on augmentation to fill the immediate identified needs.

### Findings

The review team noted that the EM Functions, Responsibilities and Authorities document (FRA) is not current. EM reorganized in 2006 and has yet to adopt an approved FRA that reflects the current organization. The team notes that the draft FRA is in the final stages of review and is expected to be issued within the next few months.

### Observations

None



**PART I: Defining and implementing the process and criteria for delegating authorities to field personnel for fulfilling assigned safety responsibilities.**

**CRITERIA and ATTRIBUTES**

1. The process used for making delegations meets the various process attributes established in the Deputy Secretary's memo.
2. Delegated individuals and their organizations possess the necessary individual qualifications, experience, and expertise to carry out their delegated safety authorities.
3. Supporting organizations have adequate processes and procedures to implement delegated authorities.
4. Supporting organizations have adequate resources, staffing and funding to implement the delegated authorities.
5. Compensatory measures are established where individuals or organizations do not meet the expectations above.

**APPROACH**

The review team used the above five criteria and attributes to evaluate the formal procedure developed by EM to delegate safety authorities to the field. In addition, the current 2007 delegations of authority to the EM field were audited against the formal process to ensure resulting delegations to the field were consistent with the Deputy Secretary of Energy *Delegations of Safety Authorities* memorandum dated December 27, 2005.

Records

Standing Operating Policy and Procedure (SOPP) PS-5.15, *Personnel Services: Environmental Management Process for Delegation of Safety Authorities*, September, 2006, Rev. 1  
2007 Field Delegation Questionnaire Matrices and Delegation of Authority Memorandums  
DOE M 411.1-1C, *DOE Safety Management Functions, Responsibilities and Authorities Manual*  
*EM Functions, Responsibilities and Authorities (FRA) Document*

Interviews

EM-11  
EM-60  
EM-61  
EM-62  
EM-63

## DISCUSSION OF RESULTS

The team found that the EM safety delegation procedure is formally established in an EM SOPP, PS-5.15, *Personnel Services: Environmental Management Process for Delegation of Safety Authorities*. This SOPP was approved by the Assistant Secretary for Environmental Management and the Under Secretary of Energy concurred. This procedure was found to meet the process attributes outlined in the Deputy Secretary's *Delegations of Safety Authorities* memorandum dated December, 27, 2005, including:

- Individuals receiving safety delegations are to be STSM certified and having completed the NELT training;
- All delegations are to individuals, formally documented, and are clear on what is being delegated;
- Delegations are reviewed by the EM Delegation of Authority Review Panel consisting of the EM Principal Deputy Assistant Secretary, the Chief Operating Officer, and the Deputy Assistant Secretary for Safety Management and Operations, and concurred in by the Central Technical Authority; and
- Delegations are to be reviewed every two years as a minimum by the SOPP, but the team noted that the actual practice was that each delegation approval to be one year or less. The EM practice has been to establish a December 31 expiration date for all safety delegations to the field.

The review team found that prior to delegating or re-delegating safety authorities, each field manager, assistant field manager, or federal project manager had to demonstrate to the EM Delegation of Authority Review Panel their individual (and corporate as appropriate) qualifications, experience, and expertise to carry out their delegated safety authorities. They do this by completing a questionnaire matrix and submitting it to EM HQ for review and consideration when making annual or other periodic delegations. In December 2006 HQ EM issued a formal matrix questionnaire to each field office to revisit and reassess the annual delegation authorities for each EM field manager. EM HQ evaluated each site response per the SOPP and prepared the appropriate delegation letter. The delegation letters are posted on the EM Portal and readily accessible at the EM Field Offices. The HQ EM documented assessment of delegation questionnaires were also reviewed by the CTA/CNS.

The self-assessment team's review of questionnaire matrices for 2007 found them to be complete per the SOPP, and the completed matrices appear to support the delegations HQ EM gave to the respective field managers for 2007. The team found that the 2007 delegation renewal memorandums were concurred on by at least two EM senior safety managers as required by the Deputy Secretary and the SOPP. Based on interviews and observations, the process is effective, but remains time consuming due to the coordination aspect between multiple senior HQ and Field Management, the CTA and EM-60 staff.

It was noted that STSM certification dates for several individuals receiving delegations ranged from 1996 to 2000. STSM certifications must now be renewed every five years. While the EM-61 staff has reminded those EM managers enrolled in the STSM program

of the new requirement to be re-certified every five years, the team recommends that EM-60 ensure managers receiving new or renewed safety delegations either fulfill the new five year STSM recertification requirement or address compensating/corrective actions for the re-certification prior to issuing safety delegations to managers with out-of-date STSM certifications.

Based on interviews with the EM-60 DAS, he ensures that the process and responsibilities of the safety delegation SOPP are implemented. He reviews and takes action on requests for delegations, and has chartered this self-assessment to ensure the process has been effective. The EM-60 DAS indicated he has frequent interactions with the Chief of Nuclear Safety (CNS) for Energy to keep him abreast of any EM delegations under consideration, and compensatory measures necessary such that CTA concurrence can be obtained.

The team found that EM-60, primarily through EM-62, performs line management oversight of EM field implementation of safety responsibilities and authorities, including those formerly delegated to a field manager. Part of the oversight review is to evaluate the qualifications and resources a field manager has to fulfill their assigned authorities. The 2006 Idaho-EM Integrated Safety Assessment was reviewed as an example of this line oversight, and it was found to be robust. The EM-60 DAS indicated that the EM-60 Idaho-EM Integrated Safety Assessment report was used to justify additional personnel resources to support delegated safety authorities at the site.

To ensure resources are available to support safety delegations, field and HQ resources are systemically reviewed. Every December, EM HQ initiates a review of technical staffing needs per DOE Manual 426.1-1A, *Federal Technical Capability Manual*. Detailed procedures and format for this workforce analysis are provided by the Federal Technical Capability Panel (FTCP). Each HQ office director is required to identify FTE needs in 30 functional areas that provide assistance, guidance, direction, oversight, or evaluation of contractor activities that could impact the safe operation of Defense Nuclear Facilities. This analysis also identifies the on-board availability of staff to meet these functional needs as well as the names of personnel requiring qualification. This staffing analysis is the primary mechanism by which EM identifies and fills critical technical staffing needs. The results were forwarded to the FTCP in February 2007. The field and HQ staffing reports will be combined and remaining gaps prioritized in March and April 2007. The needs are subsequently addressed in the EM Human Capital Management Plan, goals are established for filling the gaps and progress is tracked by the EM Office of Human Capital Planning.

## CONCLUSIONS

The EM review team found that HQ EM meets the CRAD objective. There is a robust EM field delegation procedure formally established that was found to be working well.

### Findings

None

Observation

Some managers have received 2007 safety delegations without meeting the new five year STSM recertification requirement. EM-60 should ensure future managers meet the new STSM recertification requirement or establish compensating or corrective actions in place prior to recommending approval of the safety delegation(s).

Note that the draft results of the self-assessment for delegating safety authorities to the field were reviewed by the CTA/CNS.

## **PART II. Assessment of assignment of safety responsibilities or delegation of safety authorities to Headquarters personnel**

The specific programs reviewed were Quality Assurance, Safety Basis, Oversight, Startup and Restart and Occurrence Reporting.

### **Quality Assurance**

#### **OBJECTIVE**

EM HQ has effectively implemented a program utilizing formal and informal processes that carries out the requirements and responsibilities of DOE Order 414.1C *Quality Assurance*.

#### **CRITERIA**

1. Individuals and their organizations to which safety responsibilities are assigned possess the necessary qualifications, experience and expertise to carry out these responsibilities.
2. Organizations with safety responsibilities have the proper framework of processes and procedures to implement the assigned responsibilities.
3. Organizations with safety responsibilities have adequate resources including sufficient funding to carry out assigned responsibilities.

#### **APPROACH**

The following statements were selected for review.

From DOE Order 414.1C, *Quality Assurance*,

1. Develop, approve, and implement Quality Assurance Plans (QAPs) governing the work of their organizations, including safety software development/use, in accordance with the requirements defined in paragraph 4 of this Order, S/CI prevention requirements, CAMP requirements, and Safety Software Quality requirements. Identify the senior management position specifically assigned this responsibility.

From Corrective Action Management Program (CAMP):

2. Approve CAMP Corrective Action Plans (CAPs) developed by the Field Element Managers (FEM) within 60 calendar days from the date the assessment report was issued.

From Software Quality Assurance (SQA):

3. Federal personnel with SQA responsibilities must have technical competency to carry out their duties.

Work processes involving safety software must be developed and implemented using national or international consensus standards and must include the following elements.

4. Facility design authority involvement in the identification of software requirements specification, acquisition, design, development, verification and validation (including inspection and testing), configuration management, maintenance, and retirement.
5. Review and approve new and revised field element QAPs.
6. Report management assessment results periodically to HSS describing the effectiveness of QA implementation.

#### Records

EM HQ Quality Assurance Program Plan (QAPP)

Corrective Action Tracking System (DOE)

EM QA training and experience records for staff and management

Quarterly Assessment Results Report

EM-3 Memorandum, Distribution of EM QA Initiative Evaluation Plan, March 28, 2007

#### Interviews

Central Technical Authority (CTA) staff

EM-61 staff

EM-62 staff

EM-60

EM-62

EM-50 staff

#### Observations

### DISCUSSION OF RESULTS

Discussion with EM-60 and his staff indicated that EM HQ is in transition regarding QA responsibilities.

The review team accessed Corrective Actions Tracking System (CATS) and reviewed Corrective Action Plan (CAP) approval dates. Two recent CAPs were not approved within 60 days. However, EM-62 was able to show letters from EM-3 granting an extension. EM-62 also showed they routinely access CATS to follow up on due dates.

EM-62 also provided documentation to show that they had collected data on the performance of the oversight assessments conducted by both EM HQ and EM Field elements. The EM-HQ assessment schedule indicated several QA assessments are planned. Data reporting completion rates and an evaluation of the quality of the field assessments was provided. EM-62 also showed that they had performed oversight assessment of two field offices that included evaluation of QA and self-assessments and that two QA assessments of other field elements (RL and PPPO) had occurred.

The review team discussed the process to review SQA issues within EM HQ. EM-60 indicated that he did not have the requisite technical staff to address these issues within his organization. EM-60 indicated that he had discussed the matter with the Chief of Nuclear Safety (CNS) and that the CNS had agreed to provide support in the SQA area. Although, there appears to be no written agreement, discussion with the CNS confirmed this understanding. The team concludes that this is an example of proper assignment of responsibility for this task in that a compensatory action was developed to address the shortcoming.

EM HQ has recognized that there have been significant deficiencies in the implementation of quality assurance requirements. EM has directed a review of QA programs focusing on:

- Identify where EM does not have the necessary QA infrastructure and resources to meet mission needs;
- Identify the regulatory framework and business needs that influence EM quality program requirements;
- Provide the basis for considering an EM-wide quality assurance program specific requirement;
- Provide the basis for the development of mechanisms to address quality issues early in a projects life cycle;
- Promote the sharing of lessons learned specific to QA implementation issues; and
- Facilitate a cultural change, at all levels of EM management that takes a proactive approach to the self-identification and addressing of quality related issues.

The team notes that the field has been delegated the authority to approve their own QAPPS. EM-60 reviewed those QAPPS for compliance with order requirements. Some small sites, where authority remains at EM HQ, EM-60 reviewed and approved their QAPPS. EM HQ has developed a QAPP which was approved by EM-1.

## CONCLUSIONS

EM HQ has implemented a QA program that meets requirements and is on a path for continued improvement. The team concluded that the order requirements identified for review have been properly assigned and that the tasks have been carried out.

The team concluded that these tasks were assigned to the appropriate organizations and individuals who possessed the appropriate qualifications and expertise. In the one instance, software QA, in which EM-60 did not have the appropriate skills, a compensatory action was identify and taken. Criteria 1 was met.

The team concluded that the organizations have the appropriate processes and procedures to carry out their assigned tasks. Criteria 2 was met.

The team concluded that the organizations, with the exception of the software QA issue discussed above, have the appropriate resources to carry out their assigned tasks. Criteria 3 was met.

#### Findings

None

#### Observations

None

#### **Safety Basis**

#### OBJECTIVE

EM HQ has effectively developed and implemented an Safety Basis program with formal and informal processes both to provide direction and to provide oversight assurance that the delegations of authorities are appropriate for 10 CFR 830.

#### CRITERIA

1. Individuals and their organizations to which safety responsibilities are assigned possess the necessary qualifications, experience and expertise to carry out these responsibilities.
2. Organizations with safety responsibilities have the proper framework of processes and procedures to implement the assigned responsibilities.
3. Organizations with safety responsibilities have adequate resources including sufficient funding to carry out assigned responsibilities.

#### APPROACH

The following statements from 10 CFR 830, Subpart B *Safety Basis Requirements* were selected for review.

1. Provide under 830.206(b) - DOE approval of (1) The nuclear safety design criteria to be used in preparing the preliminary documented safety analysis unless the contractor uses the design criteria in DOE Order 420.1, Facility Safety; and (2) The preliminary documented safety analysis before the contractor can procure materials or components or begin construction; provided that DOE may authorize the contractor to perform limited procurement and construction activities without approval of a preliminary documented safety analysis if DOE determines that the



activities are not detrimental to public health and safety and are in the best interests of DOE.

2. Provide under 830.205(a) -
  1. DOE approval of 2) ...of technical safety requirements and any change to technical safety requirements; and
  2. Processes employed when notified under 830.205(b) of "any violation of a technical safety requirement."
3. Provide under 830.206(b) - DOE approval of (a) The contractor ... methodology used to prepare the documented safety analysis for the facility unless the contractor uses a methodology set forth in Table 2 of Appendix A to this Part.
4. Provide under 830.202(c) - DOE actions on the (2) Annually submit[ed contractor] ... updated documented safety analysis for approval or [contractor] letter stating that there have been no changes in the documented safety analysis since the prior submission; and (3) [contractor] Incorporate in the safety basis any changes, conditions, or hazard controls directed by DOE.
5. Provide under 830.207(d) - DOE actions on issuance of a safety evaluation report, in which DOE approves the safety basis for the facility or modification, so that a contractor may begin timely operation or modification; d) With respect to a hazard category 1, 2, or 3 new DOE nuclear facility or a major modification to a hazard category 1, 2, or 3 DOE nuclear facility...

#### Records

Delegation Matrices and responses December 2006  
Office of Safety Management & Operations' (EM-60) Standard Operating Policies and Procedures (SOPP), PS-5.15, *Personnel Services: Environmental Management Process for Delegation of Safety Authorities*.  
Delegation memoranda from 2005 Related to EM-1, EM-2, EM-3 and EM-60  
Delegation memoranda from 2006 Related to EM-1, EM-2, EM-3 and EM-60  
Delegation memoranda from 2007 Related to delegations to FEMs  
EM qualification and experience  
Budget for 2007 and submittal for 2008  
Selected EM training and experience records for staff and management

#### Interviews

EM-60

#### Observations

## DISCUSSION OF RESULTS

The review team verified that the responsibility for carrying out the tasks identified in the approach list are documented in the draft EM FRA. The responsible manager is the Deputy Assistant Secretary for Safety Management and Operations (EM-60).

The review team found that the responsibilities for carrying the functions associated with all five statements were delegated to either the appropriate FEM or to the EM-60 DAS for specific areas where the FEM support was deemed by EM management as insufficient and for the EM small sites. The implementation review of the delegations of authority follow SOPP, PS-5.15, is described earlier in this report.

## CONCLUSIONS

The review team found that the responsibilities for all five statements had been formally delegated to specifically named individuals at EM sites or to DAS for EM-60. The SOPP, PS-5.15, was used for the last round of delegations. For EM, delegations are to individuals with a sunset date. The team further found that the managers and staff who carried out the tasks had the requisite qualifications, experience and expertise to carry out these responsibilities. Criteria 1 was met.

The team found that EM-60 met the requirement in that the organization had the proper framework of required processes and procedures to implement the assigned responsibilities. Criteria 2 was met.

The team found that the organization has adequate resources including sufficient funding to carry out assigned responsibilities. The team notes that staff resources are supplemented with contractor support in areas where it is not cost effective to maintain expertise in a de-centralized organization such as EM. Criteria 3 was met.

### Findings

None

### Observations

None

### **Oversight**

### OBJECTIVE

EM HQ has effectively developed and implemented an oversight program with formal and informal processes to provide oversight of EM programs.

### CRITERIA

1. Individuals and their organizations to which safety responsibilities are assigned possess the necessary qualifications, experience and expertise to carry out these responsibilities.
2. Organizations with safety responsibilities have the proper framework of processes and procedures to implement the assigned responsibilities.
3. Organizations with safety responsibilities have adequate resources including sufficient funding to carry out assigned responsibilities.

## APPROACH

The following statements from DOE Order 226.1 *Implementation of Department of Energy Oversight Policy* were selected for review.

1. Establish oversight programs and processes to implement DOE P 226.1 and this Order at HQ and across field organizations.
2. Design and implement line management oversight programs for DOE HQ and field organizations consistent with Attachment 3 or comparably effective criteria established by the responsible program office.
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 the Order.
4. Establish and maintain appropriate qualification standards for personnel with HQ and field oversight responsibilities and clear, unambiguous lines of authority and responsibility for oversight.
5. Require that DOE HQ, 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.

## Records

EM Chief Operating Officer Memorandum, Department of Energy (DOE) Order 226.1 Implementation of Oversight Policy, dated May 1, 2006

Environmental Management Headquarters Safety Oversight Process Standard Operating Policy and Procedure (SOPP) 7.2 Rev1

EM DAS for Safety Management and Operations memorandum, Training and Qualification Standard for safety oversight personnel dated September 15, 2006 and revised March 8, 2007

Integrated Assessment Schedule

ID, SRS and RL assessment reports

Training and qualification records for Office of Operations Oversight (EM-62)

Interviews

EM-62

Observations

DISCUSSION OF RESULTS

The review team verified that the responsibility for carrying out the tasks identified in the approach list are documented in the draft EM FRA. The responsible manager is the Deputy Assistant Secretary for Safety Management and Operations (EM-60).

The responsibility for ensuring oversight processes are designed and implemented at both EM field sites and HQ was assigned to EM-60 through the EM COO memorandum dated May 1, 2006. EM-60 approved an Oversight SOPP on September 19, 2006, that further assigned most of the oversight function to EM-62. There are two nuclear engineers, a former maintenance manager at a nuclear power plant, a radiation protection specialist and two former qualified facility representatives on the EM-62 staff. Résumés for EM-60 and EM-62 were reviewed. The staff members who assist in these tasks include one who holds a degree in nuclear engineering and is an Occupational Safety Health and Professional (GS-018). The review team found that EM-60, EM-62 and the staff members assigned had the requisite qualifications, experience and expertise to carry out these responsibilities. The assignment of these tasks to this organization is justified.

The team reviewed EM SOPP 7.2 EM HQ Safety Oversight Processes. The document was approved in September 2006. The team found that it adequately implemented the requirements of DOE O 226.1.

The team reviewed the EM-60 memorandum identifying training and qualification requirements for safety oversight personnel. EM-62 staff explained that it was subsequently determined that the course dealing with assessment techniques did not fully meet expectations. EM-60 subsequently revised the training and qualification standard to allow an additional Institute of Nuclear Power Operations (INPO) course. Training and qualification records for the Office of Oversight (EM-62) were reviewed and found to be complete. A memorandum from EM-62 to EM-60 requesting authority to apply alternate training for certain individuals and its approval was also reviewed.

EM HQ assessment schedules as well as a quarterly report on the completion rates for EM HQ and EM field sites were reviewed. EM holds weekly calls with the field and EM-60 provides a weekly safety status to EM-1. The team concluded that there is substantial evidence to show EM-60 is overseeing safety in the field and the oversight processes employed by EM field organizations.

The team reviewed organization charts and mission and function statements. EM managers indicated satisfaction with the EM HQ oversight activities and indicated that there were efforts underway to continue expanding the oversight staff resources. It appears to the team that the actions of the EM-60 organization demonstrate there are adequate resources to perform oversight responsibilities. However, this is a subjective judgment call by both the reviewers and EM management that does not have a prescriptive or quantitative basis. More could certainly be done with additional resources, but there were no apparent failures due to lack of resources.

## CONCLUSIONS

The review team found that the responsibilities for all five statements had been formally delegated to EM-60. The team further found that the managers and staff who carried out the tasks had the requisite qualifications, experience and expertise to carry out these responsibilities. Criteria 1 was met.

The team concluded that the Office of Operations Oversight (EM-62) has the proper framework of processes and procedures to implement the assigned responsibilities. Criteria 2 was met.

The team concluded that EM-60 has demonstrated its ability to carry out its assigned responsibilities with the staff resources and funding provided. Criteria 3 was met.

## Findings

None

## Observations

None

## **Startup and Restart of Nuclear Facilities**

### OBJECTIVE

EM HQ has effectively implemented a process to ensure startup and restart requirements of the order are met.

### CRITERIA

1. Individuals and their organizations to which safety responsibilities are assigned possess the necessary qualifications, experience and expertise to carry out these responsibilities.
2. Organizations with safety responsibilities have the proper framework of processes and procedures to implement the assigned responsibilities.

3. Organizations with safety responsibilities have adequate resources including sufficient funding to carry out assigned responsibilities.

## APPROACH

The following statements from DOE Order 425.1C *Startup and Restart of Nuclear Facilities* were selected for review.

1. For initial startups of new hazard category 3 nuclear facilities, the cognizant Secretarial Officer (or designee) must approve startup. If other DOE Orders require a higher level of startup authorization than this Order, the official described in this Order will recommend startup to the higher-level official.
2. For shutdowns directed by a DOE management official for safety or other appropriate reasons, approval to restart must be granted by an official of a level commensurate with the official ordering the shutdown, unless a higher level is designated by the cognizant Secretarial Officer.
3. For extended shutdowns of hazard category 1 nuclear facilities, the cognizant Secretarial Officer must approve restart. For extended shutdowns of hazard category 2 nuclear facilities, the cognizant Secretarial Officer (or designee) must approve restart.
4. For shutdowns because of substantial facility modifications of hazard category 1 nuclear facilities, the cognizant Secretarial Officer must approve restart. For such shutdowns of hazard category 2 nuclear facilities, the cognizant Secretarial Officer (or designee) must approve restart.
5. Line management (PSO) must establish procedures (and ensure contractors establish procedures) as necessary to manage startup and restart actions in accordance with the requirements of this Order.
6. Line management (PSO) must exercise the delegation authority and document all delegations of authority made under the provisions granted by this Order.

## Records

Startup Notification Reports submitted to EM HQ

Selected EM training and experience records for staff and management

Memorandum from EM COO Environmental Management Expectations for DOE Order 425.1C dated December 21, 2006, describing expectations for conduct of readiness reviews and SNRs

Email from EM COO to Oak Ridge Operation Office regarding the MSRE ORR

Report from EM-62 regarding significant issues observed during the BJC MSRE ORR

## Interviews

EM COO  
EM-60  
EM-62  
EM-62 Staff

## Observations

### DISCUSSION OF RESULTS

The review team verified that the responsibility for carrying out the tasks identified in the approach list are documented in the draft EM FRA. The responsible manager is the Deputy Assistant Secretary for Safety Management and Operations (EM-60).

This order is difficult to assess compliance against because it does not contain many of the prescriptive administrative responsibility statements. The order reads more like a guide in that it walks the reader through the process while burying requirements in the body. The review team believes that EM should interpret the order statements through the lens of a prescriptive order template. Thus, the PSO is still responsible for ensuring the field readiness processes are in place and that there are HQ oversight processes and procedures in place to ensure a robust and effective program.

The team noted that there is evidence that EM-62 routinely reviews and comments on SNRs. However, the team also found that there is no formal requirement for that review and that recently several gaps in the review were uncovered. Specifically there was an issue with the level of review proposed in the SNR for a facility in Idaho. Although the proposed review was identified in several SNRs as a contractor Management Self-Assessment, the appropriate level of review was an Operational Readiness Review.

The team reviewed evidence that the EM COO provides guidance to the field on expectations for readiness reviews. Review covered formal memorandum regarding initiation of a review prior to approval of the safety basis at Savannah River, as well as e-mail discussion of a DOE ORR at Oak Ridge starting when the contractor was unprepared.

The team found that EM-62 staff participated in DOE ORRs and observed contractor readiness reviews.

The team determined that the staff member providing support to EM-62 and EM-60 for readiness issues held a degree in nuclear engineering with over 30 years experience. In addition, review of the résumés for EM-60 and EM-62 show that they also have experience in oversight of nuclear facilities regarding readiness requirements. The assignment of this task to the organization and its staff is justified.

## CONCLUSIONS

The review team found that the responsibilities for all six statements had been formally delegated to EM-60. The team further found that the managers and staff who carried out the tasks had the requisite qualifications, experience and expertise to carry out these responsibilities. Criteria 1 was met.

The team found that EM-60 met the requirement in that the organization had the proper framework of required processes and procedures to implement the assigned responsibilities. However the team felt there may be a benefit in formalizing the processes. See Observation below. Criteria 2 was met.

The team found that the organization has adequate resources including sufficient funding to carry out assigned responsibilities. Criteria 3 was met.

### Findings

None

### Observation

The statements chosen by the team for analysis do not identify prescriptive requirements for the process that carries them out. However, the team feels EM would benefit through formalizing some of these processes, in particular, the review of SNRs. This could be done by incorporation into the existing Oversight SOPP or through other direction to the support staff. This guidance might require a quarterly report on the results of a review of the SNRs and identification of issues, expectations for the conduct of the review and expectations for site visits and reviews of field restart processes.

### **Occurrence Reporting**

#### OBJECTIVE

EM has ensured compliance with the requirements and provided guidance to the field to meet expectations on reporting events and detecting adverse trends.

#### CRITERIA

1. Individuals and their organizations to which safety responsibilities are assigned possess the necessary qualifications, experience and expertise to carry out these responsibilities.
2. Organizations with safety responsibilities have the proper framework of processes and procedures to implement the assigned responsibilities.
3. Organizations with safety responsibilities have adequate resources including sufficient funding to carry out assigned responsibilities.



## APPROACH

The following statements from DOE Order 231.1A, *Environment, Safety and Health Reporting* were selected for review:

Heads of Departmental Elements (those organizations which report directly to the Secretary, Under Secretaries, or Deputy Secretary) must meet all the reporting requirements in the referenced directives, including the following:

1. Annual Fire Protection Summary. Submit an annual report of the previous year's fire damage to the DOE fire protection authority having jurisdiction on April 30 each year. (See DOE Manual 231.1-1A, Chapter II.)

Secretarial Officers/Deputy Administrators, NNSA with responsibilities for field facilities must do the following:

2. Ensure that the occurrence reporting requirements in the CRD for DOE Manual 231.1-2 are applied to applicable contracts within three months after approval of this Order.
3. Review occurrence reports for indications of deteriorating or poor performance.

The following statements from DOE Manual 231.1-2, *Occurrence Reporting and Processing of Operations Information* were selected for review:

4. Review occurrence reporting data and identify circumstances that are indicative of deteriorating or poor program performance in their respective areas of authority.
5. Provide the Headquarters Operations Center (HQ OC) with a prioritized list of emergency management duty officers and their contact numbers to permit notification on a 24 hour-a-day, 7 day-a-week basis.

## Records

Energy Operations Center EM Notifications Call list 12/05/06  
EM submitted Notifications Call List from EM-3 dated 3/7/07  
Environmental Management Headquarters Safety Oversight Process Standard Operating Policy and Procedure (SOPP) 7.2 Rev1  
Selected EM training and experience records for staff and management

## Interviews

EM-61 Fire Protection Engineer  
EM-50 staff

## Observations

## DISCUSSION OF RESULTS

The review team verified that the responsibility for carrying out the tasks identified in the approach list are documented in the draft EM FRA. The responsible manager is the Deputy Assistant Secretary for Safety Management and Operations (EM-60).

The review team noted that the draft FRA assigns responsibility for ensuring DOE Order 231 requirements are placed into applicable contracts to EM-3. EM-50 is assigned the supporting role. The previous FRA did not assign a supporting organization. Discussion with the EM-50 staff indicates that they are aware of the need to ensure that Request for Proposals (RFPs) and contracts are reviewed to ensure the correct safety management requirements and Directives are included. In the past year, EM-50 has attempted to address this need by trying to implement an EM DAS review of all draft and final RFPs prior to submission to the Office of Procurement and Assistance Management (MA-60) for Business Clearance. However, there is not yet a written process within EM HQ to ensure that these reviews are adequate and effective. Additionally, current contracts should be reviewed to ensure Directives requirements are properly in place. EM-50 believes that the primary organizational responsibility and staff expertise to ensure that appropriate safety management requirements are included in new EM RFPs and contracts is with the Procurement Integrated Project Teams at the Field offices with additional checks by EM DAS reviews and ultimately during business clearance. Within EM HQ, EM-50 and EM-60 are working to determine who should be assigned the responsibility to provide the oversight to ensure that the appropriate requirements have been incorporated. By extension, this gap may exist for many other Directives requirements. Including the requisite safety management requirements and Directives in contracts is a fundamental EM HQ responsibility that this review team believes would benefit from the development of a formal tracking and decision process.

The review team contacted both EM-60 and the EM-61 staff fire protection engineer regarding the requirement to submit the annual fire protection summary. It appears that EM field sites submit the reports directly to the HSS with a copy sent to EM HQ. It is not clear to the team that HSS involves EM HQ. There was no record to show HSS acknowledged receiving the reports. HSS contact the field directly. Presumably HSS would have contacted EM if it was missing all of the reports, but EM cannot demonstrate complete compliance.

The review team discussed the order requirement for reviewing occurrence reporting information for adverse trends with EM-62. The SOPP directs EM-62 to review ORPS data on a daily basis. EM-62 described his process for conducting daily calls with the field regarding these events and for initiating additional actions in response. In addition to the ORPS data, EM has created a HQ notification system for events at or below the ORPS threshold that is tracked and responded to by EM-62. EM-62 was able to display numerous E-mails indicating follow up on issues and trends. The EM event follow up process exceeds the Order requirements. The assignment of these tasks to EM-62 is justified based upon their qualifications and experience.

The review team visited the DOE EOC. The EOC staff indicated that EM provides an updated call list on a monthly basis. The list at the EOC was dated December 5, 2006.

The review team contacted the EM-3 staff who maintain the list. EM-3 had submitted monthly updates to the EOC. Although the list at the EOC was not the latest provided by EM, the contents were identical. The team also validated that several of the phone numbers were correct.

## CONCLUSIONS

The review team noted that the identified support staff (Fire Protection Engineer, Safety and Health Professionals and Safeguards and Security staff) are qualified and competent to perform their responsibilities. In addition, the expansion of the Technical Qualification Program at EM HQ will further enhance the formal qualifications of the staff.

There is no specific requirement for a process to review draft contracts. However, EM should develop a reliable system to ensure draft contracts are reviewed to include the correct DOE Orders. Criteria 1 is met with two observations.

EM HQ organizations with responsibilities for carrying out the tasks identified for review have the proper framework of processes and procedures to implement their assigned responsibilities. Criteria 2 is met. However, the team feels that EM may benefit by better tracking to ensure several of the administrative requirements of the Order are met.

The team concluded that the EM HQ has demonstrated it has adequate resources including sufficient staff and funding to carry out these assigned responsibilities. Criteria 3 is met.

### Findings

None

### Observations

EM cannot demonstrate a process that ensures the annual fire protection summary is provided to HSS. By extension, it is possible that the other reports required by the Order are similarly handled in an informal way. EM HQ may benefit by developing a tracking system to ensure the reports are generated and forwarded in compliance with the Order. Alternatively, the appropriate managers could provide written direction to support staff on expectations for ensuring the tasks are carried out.

EM has not fully developed a formal process to review Requests for Proposals (RFPs) and existing contracts to ensure that the appropriate DOE safety management and Directives requirements are included. EM HQ should determine which support organization is best qualified to perform the task and develop a process to ensure a competent review occurs.