U.S. Department of Energy	Subject: Operating Experience Inspection Criteria and Approach, DNFSB 2004-1 IP, Commitment 20	HS: HSS CRAD 64-41 Rev: 0 Eff. Date: 02/11/2009
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Criteria Review and Approach Document	Criteria Lead, Operating Experience Inspection Criteria and Approach, DNFSB 2004-1 IP, Commitment 20 Date: 2/11/2009	Page 1 of 6

1.0 PURPOSE

Within the Office of Independent Oversight, the Office of Environment, Safety and Health (ES&H) Evaluations' (HS-64) mission is to assess the effectiveness of those environment, safety and health systems and practices used by field organizations in implementing Integrated Safety Management and to provide clear, concise, and independent evaluations of performance in protecting our workers, the public, and the environment from the hazards associated with Department of Energy (DOE) activities and sites. A key to success is the rigor and comprehensiveness of our process; and as with any process, we continually strive to improve and provide additional value and insight to field operations. Integral to this is our commitment to enhance our program. Therefore, we have revised our Inspection Criteria, Approach, and Lines of Inquiry for internal use and also we are making them available for use by DOE line and contractor assessment personnel in developing and implementing effective DOE oversight and contractor self-assessment and corrective action processes on this WEB page.

2.0 APPLICABILITY

The following Inspection Criteria document is approved for use by the Office of ES&H Evaluations.

3.0 FEEDBACK

Comments and suggestions for improvements on these Inspection Criteria, Approach, and Lines of Inquiry can be directed to the Director of the Office of ES&H Evaluations on (301) 903-5392.

Federal Assurance Capability Review Plan

Background: In May 2004, the Defense Nuclear Facility Safety Board (DNFSB) recommended that several actions be taken by DOE and the National Nuclear Security Administration (NNSA) to provide increased assurance of safety at defense nuclear facilities. (See DNFSB Recommendation 2004-1, *Oversight of Complex, High-Hazard Nuclear Operations.)* In response to this recommendation, DOE developed and implemented an *Implementation Plan to Improve Oversight of Nuclear Operations.* This plan includes a commitment (Commitment #20) to verify the Department's effectiveness of implementation of DOE Implementation Plan (IP) actions addressing learning from internal and external operating experience and assigns the Chief Health, Safety ad Security Officer (HS-1) the responsibility for performing an effectiveness review. HS-1 has assigned HS-64, as the Office of Health, Safety and Security (HSS) organization, with primary responsibility for Independent Oversight of safety, to develop the plan and perform the effectiveness review.

Purpose: To provide a plan, including criteria, approaches, and the lines of inquiry, to be used for assessing the effectiveness of IP actions relating to learning from internal and external operating experience.

Scope: The review plan covers all areas in IP Section 5.2, *Learning from Internal and External Operating Experience.*

Overall Approach: HS-64 will review performance to determine if actions specified in the DOE Implementation Plan have been taken and to assess the effectiveness of these actions. A number of the criteria and lines of inquiry specified in the plan are the same as, or similar to, those used by HS-64 for routine ES&H inspections. Where this is the case, HS-64 will perform the specified review during upcoming routine ES&H inspections and/or will use the results of recent inspections to provide perspectives on effectiveness. HS-64 will collect data through various means (e.g., interviews or focused special reviews) when the areas to be reviewed are outside the scope of its routine inspection program. At the conclusion of these reviews, HS-64 will prepare a report summarizing the extent to which DOE and NNSA actions in response to DNFSB Recommendation 2004-1, Commitment #20, have been implemented and providing the HS-64 evaluation of their effectiveness in achieving the intended improvements in nuclear safety.

Department-wide Action Plan for Columbia and Davis-Besse Events (IP Section 5.2.1)

Introduction

DNFSB Recommendation 2004-1 includes recommendation that DOE and NNSA issue corrective action plans consistent with recommendations resulting from internal DOE and NNSA reviews of the Columbia accident and the Davis-Besse incident. DOE developed an *Implementation Plan to Improve Nuclear Operations* in response to recommendation 2004-1. Section 5.2.1 of the DOE Plan identifies the commitment to complete the Department-wide formal review of the Columbia and the Davis-Besse events and develop and issue a consolidated Department-wide action plan. The status of this commitment has been reported as "Complete."

Approach

HS-64 will review steps taken by DOE and NNSA to address recommendations resulting from internal DOE and NNSA reviews of the Columbia accident and the Davis-Besse incident to determine if commitments made to the DNFSB in this area have been met and to assess the effectiveness of actions taken. Specific areas of review are as follows:

1. Review the deliverable to confirm completion of Commitment 17 identified in Section 5.1.1 of *DOE Implementation Plan to Improve Nuclear Operations, Revision* 2.
2. Review actions taken by the HSS Office of Corporate Safety Analysis (HS-30) to address action items to assist line management in establishing corporate performance metrics to assess the effectiveness of corrective actions implemented per the consolidated plan and to provide semi-annual reports on implementation progress.
3. Review DOE and NNSA actions taken in accordance with the consolidated Department-wide action plan, *Lessons Learned from the Columbia Space Shuttle Accident and Davis-Besse Reactor Pressure-Vessel Head Corrosion Event*, dated July 2005. Note: the review approach will rely on a sampling approach, including samples of reviews performed by HS-30.
4. Review DOE and NNSA actions taken to address the specific comments on the consolidated Department-wide action plan in the letter issued October 11, 2005, from the DNFSB Chairman to the Deputy Secretary of Energy.

Field effectiveness of actions within the consolidated Department-wide action plan will be included within the scope of scheduled ES&H inspections at Pantex, Savannah River, and Lawrence Livermore during calendar year 2009. Inspection results will be detailed in an identifiable section (e.g., an appendix) to inspection reports and a summary report will be issued in 2010.

Criteria

Section 5.2.1 of the *DOE Implementation Plan to Improve Nuclear Operations, Revision 2 (in response to DNFSB Recommendation 2004-1)* specifies the following commitment and deliverable:

- Commitment 17: Complete Department-wide formal review of Columbia and Davis-Besse events, and develop a consolidated Department-wide Action Plan. Deliverable for Commitment 17: Consolidated Department-wide Action Plan, approved by the Deputy Secretary, and describing who will determine that corrective actions have been effective.

The consolidated Department-wide action plan, *Lessons Learned from the Columbia Space Shuttle Accident and Davis-Besse Reactor Pressure-Vessel Head Corrosion Event*, dated July 2005, contains 10 specific lessons learned. The working group that developed the lessons learned divided the 10 lessons learned into two categories. As discussed below, the first five lessons learned are the focus of this Criteria Review and Approach Document (CRAD).

The first five lessons learned are summarized below:

1. Operating Experience: People and organizations need to learn valuable lessons from internal and external operating experience to avoid repeating mistakes and to improve operations.
2. Mission and External Influences: Budget and schedule pressures must not override safety considerations to prevent unsound program decisions.
3. Normalizing Deviations: Routine deviations from an established standard can desensitize awareness to prescribed operating requirements and allow a low-probability event to occur.
4. Technical Inquisitiveness: To ensure safety, managers need to encourage employees to freely communicate safety concerns and differing professional opinions.
5. Focus on Planning and Prevention: Safety efforts should focus more on planning and preventive actions rather than investigations and corrective actions resulting from accidents or events.

The first five lessons learned include associated action items. The working group determined that the actions for the first five lessons learned were not addressed in the 2004-1 IP or that the additional action would enhance commitments already included in the 2004-1 IP. The specific action items contained within the consolidated Department-wide action plan will be used as criteria for this effectiveness review.

The second five lessons learned address organizational structure, self-assessment/oversight, staffing/qualifications, corrective actions and complacency. The working group determined that the second five lessons learned are adequately addressed by other aspects of the IP and, thus, did not warrant any separate actions for commitment 17. Therefore, the Independent Oversight review of the second five lessons learned will be accomplished through the review of other aspects of the DOE IP for DNFSB Recommendation 2004-1.

Lines of Inquiry

1. Do the deliverables referenced by the *DOE Implementation Plan* support that Commitment 17 has been met?

2. Have corporate performance metrics been developed to assess the effectiveness of corrective actions implemented per the consolidated plan?

3. Do recent semi-annual reports issued by HS-30 indicate that DOE and NNSA are appropriately implementing actions from the consolidated Department-wide action plan?

4. Based on reviews performed by HS-30, have DOE and NNSA taken the actions specified in the consolidated Department-wide action plan? Have they remained in place and effective since completion? Have DOE and NNSA allocated the appropriate resources to address the action plan?

Comprehensive Operating Experience Program (IP Section 5.2.2)

Introduction

As described in the IP, one of the underlying issues needing resolution in learning from internal and external operating experience is that the Department's comprehensive operating experience program needs to be upgraded to ensure systematic, timely attention to identify, evaluate, and implement applicable lessons from both internal and external events. The Resolution Approach to this issue committed to significantly upgrading the previous operating experience program (previously defined by DOE-STD-7501-99, *The DOE Corporate Lessons Learned Programs*) and adding necessary requirements to the DOE directives system. The approach stated that the enhanced program would be modeled after the Institute for Nuclear Power Operations Significant Event Evaluation – Information Network (SEE-IN) Program. To implement this model, the Department committed to issue DOE Order 210.2, *DOE Corporate Operating Experience Program*, which was issued in June 2006 (thereby closing IP Commitment 18). This review will focus on the overall effectiveness of DOE Headquarters and field office implementation of Order 210.2.

Criteria

DOE Headquarters and field line management have established and implemented an effective set of requirements that govern the Operating Experience Program. DOE operating experience programs and processes are developed and implemented in accordance with the key elements outlined in DOE Order 210.2, *DOE Corporate Operating Experience Program.*

Section 5.2.2 of the *DOE Implementation Plan to Improve Nuclear Operations, Revision 2 (in response to DNFSB Recommendation 2004-1)* specifies the following commitments and deliverables:

- Commitment 18: Develop Comprehensive DOE Operating Experience Program. Deliverable for Commitment 18: DOE Directive on Operating Experience, approved and issued by the Deputy Secretary, along with implementation direction and a schedule to complete implementation.
- Commitment 19: Demonstrate Performance of DOE Operating Experience Program. Deliverable for Commitment 19: Line oversight review reports on the implementation of the operating experience program at the line program's sites.

Approach

Include the reviews of the DOE Operating Experience Program at defense nuclear facilities as part of the ongoing HS-64 Independent Oversight inspection program for CY 2009. A summary report of the results of the oversight inspections of DOE Order 210.2 implementation will be issued in 2010. The report will address past results from CY 2007 and 2008 inspections as well as results of inspections performed in CY 2009 to provide a broad sample of Operating Experience Program effectiveness as indicated by the extent of DOE Order 210.2 implementation across the complex. The report will also include a synopsis and evaluation of line oversight review reports provided as deliverables for Commitment 19.

Lines of Inquiry

HSS CRAD 64-22, *Feedback and Continuous Improvement Inspection Criteria and Approach – DOE Headquarters*, and HSS CRAD 64-21, *Feedback and Continuous Improvement Inspection Criteria and Approach – DOE Field Element*, provide a comprehensive set of CRADs to address the DOE Operating Experience Program and should be used for this review. The following additional lines of inquiry are also provided to address evaluation of line oversight review reports provided as deliverables for Commitment 19 and to better facilitate data collection and reporting to support the year-end report described in the review approach above:

1. Have line oversight organizations (NNSA and Office of Environmental Management) submitted review reports on the implementation of the operating experience program at the line program's sites in accordance with Commitment 19?

2. Do the reports demonstrate performance of DOE Operating Experience Program? Specifically:
   - Did line organizations develop a CRAD for Operating Experience?
   - Did line organizations update appropriate Functions, Responsibilities, and Authorities Manual for Operating Experience responsibilities?
   - Did line organizations direct performance of site self-assessments?
   - Did Headquarters line organizations perform oversight assessments of site Operating Experience Program elements and review the site self-assessments?

3. Are line organization implementation reviews consistent with HS-64 results?