

HSS Independent Activity Report		Report Number: HIAR LLNL-2012-10-23	
Site: Lawrence Livermore National Laboratory		Subject: Office of Enforcement and Oversight's Office of Safety and Emergency Management Evaluations Activity Report for Site Lead Planning Activities at the Lawrence Livermore National Laboratory	
Dates of Activity	10/23/2012 – 10/24/2012	Report Preparer:	Robert Freeman
Activity Description/Purpose: The purpose of this Office of Health, Safety and Security (HSS) Independent Oversight activity was to maintain site operational awareness of key nuclear safety performance areas, monitor ongoing site oversight and planning activities for Lawrence Livermore National Laboratory (LLNL) nuclear facilities, and identify and initiate coordination of future HSS oversight activities at the site, including planned HSS targeted reviews planned for Fiscal Year (FY) 2013.			
Result: The HSS LLNL site lead and the HSS Deputy Director for Oversight, Office of Enforcement and Oversight, attended key meetings that were held as part of the coordination of Office of Safety and Emergency Management Evaluations oversight activities for FY 2013. Areas of interest that were discussed included: <ul style="list-style-type: none"> • HSS nuclear safety culture extent of condition reviews, including LLNL/Livermore Site Office (LSO) plans for upcoming self-assessments; • LLNL nuclear operations, including post de-inventory status and future mission activities, B331 documented safety analysis/implementation verification review implementation schedule, LLNL/LSO ongoing actions to the Defense Nuclear Facilities Safety Board (DNFSB) staff letter on site safety basis and safety system performance, and the HSS safety system targeted review area for FY 2013; • Radiological program performance, including lessons learned from the Los Alamos National Laboratory Neutron Science Center Federal Accident Investigation, and the HSS targeted review area on radiological controls at the work activity-level; • Status of LLNL Emergency Management (EM) Facility Operations Drill Program, including scope of the HSS EM targeted review of EM for FY 2013; • LSO Fire Protection (FP) oversight, including scope of the HSS FP targeted review for FY 2013; and • LSO activities related to line oversight and LLNL contractor assurance system performance. <p>The LSO Manager and her senior staff provided their overall perspectives on the site's nuclear safety performance and recent DNFSB staff concerns. In a follow-on meeting, LSO along with senior LLNL management representatives expressed considerable interest in lessons learned from the HSS extent of condition assessments, and a strong desire to tap available departmental resources (i.e., training, subject matter experts, etc.) to support planned LSO/LLNL nuclear safety culture self-assessment activities in FY 2013. HSS and LSO/LLNL committed to share information and keep each other apprised of ongoing activities in the nuclear safety culture assessment area, recognizing that the implementation plan for DNFSB Rec. 2011-1 Section 5.2.2, Action 2-7 requires HSS to put together a plan and conduct oversight of line management self-assessments.</p> <p>HSS met separately with key LSO and LLNL representatives to discuss current and future HSS oversight priorities for nuclear safety, with particular emphasis on HSS targeted review areas identified in Reference 1. Overall results from the meetings held are summarized below:</p> <ul style="list-style-type: none"> • Building 331 Implementation Verification Review (IVR): Since the scope of the safety basis changes were considered small and noncomplex, it was concluded that HSS would not shadow the activity. However, HSS would review the final report of the IVR activity. • Targeted Review of the Modification of Superblock Fire Suppression System (FSS): Discussions with LSO and LLNL staff indicated that removal of the nitrogen skid and associated modifications with the Building 332 (B332) FSS system is a high facility priority in the next year. The site indicated the FSS modification package is about 75% drafted, and full implementation of the modification, including testing and implementation of associated safety bases changes, is scheduled for completion by June 2013. Several potential HSS activities were discussed related to the modification including: (1) a technical review of the completed draft modification and, if available, associated plans for its implementation, (2) observation of the modification implementation, and (3) shadow of the IVR. Subsequently, HSS and LSO/LLNL agreed the technical design review of the B332 FSS modification could be conducted in the first quarter of 2013. Implementation of this modification would fully address Finding E-2 from the HSS 2007 inspection (Reference 2). 			

- **Targeted Review of Fire Protection Program:** Discussions with LSO staff indicate there were opportunities to coordinate the HSS targeted review within the FY 2013 LSO/LLNL integrated assessment schedule. Subsequently, LSO indicated mid-June 2013 would be an appropriate time to conduct the independent review with concurrent LSO oversight activities ongoing in this area. HSS committed to provide an evaluation plan and document request list well in advance of the scheduled independent review. The independent review would focus on the superblock, including follow-up of fire protection program weaknesses identified from the 2009 HSS inspection (Reference 3), and also include sampling of another LLNL facility yet to be determined.
- **Targeted Review of Radiation Protection Program - Focused on the Work Activity Level:** At the time of the onsite visit, HSS was in the process of revising its criteria, review, and approach document (CRAD) for radiation protection based on lessons learned from recent radiation protection independent reviews. In addition to providing copies of recent independent reviews on radiation protection, HSS also committed to providing copies of the revised CRAD for radiation protection, along with a draft review plan for review and coordination with LSO. The scope of the review would include follow-up of work planning and control issues associated with radiation protection program implementation at the LLNL Nuclear Materials Technology Program (NMTP) facilities from the 2011 HSS Integrated Safety Management System Effectiveness Independent Review (Reference 4). Follow-up discussions will be held on scheduling the targeted review within the site integrated assessment plan.
- **Targeted Review of Safety Class or Safety Significant Structures, Systems, and Components:** Limited discussions were held on this targeted review area largely because at the time of the onsite visit, HSS was in the process of evaluating results from previous HSS essential system functionality reviews conducted to narrow the scope of targeted reviews to be conducted in this area. HSS committed to providing its revised CRADs and draft review plans for coordination with LSO. The scope of the targeted review is expected to include an element of follow-up to selected prior HSS issues identified in the systems engineering area.
- **Emergency Management Independent Review:** Discussions with LSO and LLNL staff regarding the status of NMTP operational drill program indicated that NMTP has fully implemented the new drill program manual, conducted a number of drills under the manual, and drills are now scheduled for this FY 2013. LSO stated that while LLNL has made good progress in this area, moving forward to more challenging drill scenarios that test the interface between the facility and hand-off to the institutional emergency response organization is the next step. HSS and LSO discussed the upcoming schedule of HSS EM independent reviews for FY 2013, which includes evaluation of the training and drill program element within the scope of all independent reviews. HSS and LSO agreed to coordinate to ensure the objectives of the upcoming independent review cover, to the extent possible, the key areas identified in the March 2012 memorandum on LLNL operational drill program (Reference 5). The schedule for the HSS EM independent review was tentatively scheduled for the first week in February 2013.

HSS Participants	References
1(lead). Robert Freeman, LLNL/LANL Site Lead	1. Memorandum for Distribution from Glenn S. Podonsky, Chief Health, Safety and Security Officer, Office of Health, Safety and Security, Subject: Independent Oversight of Nuclear Safety – Targeted Review Areas Starting FY 2013, dated November 6, 2012.
2. Thomas Staker, Deputy Director for Oversight	2. Inspection of Environment, Safety, and Health Programs at the Lawrence Livermore National Laboratory, dated May 2007.
	3. Independent Oversight Review of Nuclear Safety at the Lawrence Livermore National Laboratory, December 2009.
	4. Independent Oversight Review of Integrated Safety Management System Effectiveness at Lawrence Livermore National Laboratory, dated September 2011.
	5. Memorandum for Kimberly A. Davis, Manager, Livermore Site Office from John S. Boulden III, Director, Office of Enforcement and Oversight, Subject: Lawrence Livermore National Laboratory Operational Drill Facility Program, dated March 6, 2012.
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Were there any items for HSS follow up? Yes ☒ No ☐

HSS Follow Up Items

- Provide copies of targeted review assessment planning documentation once they become available to LSO for review and coordination. Continue ongoing weekly dialogue on scheduling of independent reviews with LSO staff.