

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Timothy Dwyer, Technical Director
FROM: Wayne Andrews and David Kupferer, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending December 2, 2011

ORNL Building 3019/Uranium-233 Disposition. From November 10th through 16th—concurrent with Isotek’s readiness assessment (RA)—DOE-ORO conducted a management self-assessment (MSA) of Isotek’s readiness to begin retrieving, inspecting, overpacking, and shipping Zero Power Reactor (ZPR) plates to the Nevada Nuclear Security Site (see the 11/18/11 report). The scope of the MSA included verifying (a) the adequacy of Isotek’s RA and (b) that Isotek had completed the prerequisites for DOE-ORO’s RA. The MSA team concluded that the contractor RA was performed adequately and that DOE-ORO could initiate its RA. In addition to the one pre-start and one post-start finding identified by Isotek’s RA team, DOE-ORO’s MSA team identified five additional pre-start findings and one additional post-start finding.

Staff member B. Sharpless visited ORNL this week to observe DOE-ORO’s RA, which was initiated on Wednesday. DOE-ORO’s RA team plans to complete its review next Thursday. Isotek has not yet closed three of the pre-start findings that were identified during Isotek’s RA and the DOE-ORO’s MSA, which the contractor expects to close in the near future. Given a successful completion of DOE-ORO’s RA, Isotek plans to execute the first shipment of ZPR plates to Nevada Nuclear Security Site by the end of this calendar year.

Conduct of Operations. On Monday, production management conducted a ‘safety pause’ to reinforce conduct of operations principles with production personnel prior to resuming operations after the long holiday weekend. These briefings included discussions of the recent contamination incident that occurred at Idaho National Laboratory. Management discussed breakdowns in mitigation controls for known hazards associated with this incident and emphasized that lessons learned from this incident include the need for operators to stay focused, maintain a questioning attitude, and avoid complacency.

Highly Enriched Uranium Materials Facility (HEUMF). In a 4/20/11 letter, the Board requested NNSA provide a report and briefing that describe (a) the technical basis for determining that toxicological hazards need not be considered in the development of safety basis documents and (b) the benefits expected to be gained by potentially downgrading the Secondary Confinement System (SCS) of HEUMF. In May, YSO and B&W management briefed the Board on their intent to pursue downgrading the SCS this year given the marginal safety benefit associated with the SCS in HEUMF (see the 5/20/11 report).

In response to concerns raised by the Board’s staff in July, YSO directed B&W to incorporate the following improvements in the next annual update to the Documented Safety Analysis (DSA) for HEUMF (see the 7/29/11 report): (a) analysis of toxicological hazards, (b) an improved basis for the unmitigated fire, (c) evaluation of a small fire that would not be large enough to activate the fire suppressions system, and (d) a more detailed discussion of the functional requirements for the fire suppression system. This week, B&W requested YSO’s approval to omit these improvements from the annual update of the DSA. In lieu of including incorporating these improvements into this annual update of the DSA, B&W proposed (1) submitting a Safety Basis Supplement to YSO by April that will include analysis of toxicological hazards and (2) developing a schedule for the other improvements—to include re-evaluating the safety designation (i.e., safety-significant versus defense-in-depth) of the SCS—after YSO concurs on the consequence analysis parameter values to be used.