

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 24, 2011

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending June 24, 2011

Natural Phenomena Hazard Assessment (NPHA): The Hanford site has not complied with the requirement in DOE Order 420.1B that an NPHA review must be conducted at least every 10 years, as the last NPHA was in 1996. In 2009, EM approved an exemption request and accepted a plan to start a probabilistic seismic hazard analysis (PSHA) in 2010. The PSHA has not been started, but DOE plans to hold a meeting in July to review the technical baseline for the site.

Waste Treatment Plant: The ORP Safety Review Board approved the contractor's request to continue design and procurement of the cesium ion exchange system while they complete a formal request to revise the safety basis to change the design. The design of the system is being changed to include heat exchangers that regulate the temperature of the waste and prevent precipitation of solids that could plug the ion exchangers. The accumulation of solids in the resin could prevent the release of hydrogen gas to the venting system. ORP determined that several safety considerations need to be addressed in the Authorization Basis Amendment Request (ABAR), including: accumulation of hydrogen in the elevated piping between the vessels; consideration of temperature control as the credited control; and the effect of increasing temperature to prevent precipitation on the hydrogen generation rate. ORP's approval is limited to one year while the contractor finishes the ABAR with the complete safety strategy.

River Corridor Closure Project: The site rep observed the collection of a soil sample from the highly contaminated soil under the hot cell of Building 324. The pre-evolution briefing was adequate and the sample was retrieved without incident. Initial indications are that the sample may not have captured the very highly contaminated soil that was the source of the high radiation reading seen previously (see Activity Report 11/19/10). The sampling plan included two samples, but the contractor was unable to drive the cone penetrometer far enough under the building to allow for sampling closer to the footing of the hot cell. The sample that was collected was placed in a shielded drum and transported to Building 325 for analysis by PNNL.

Plateau Remediation Contractor: The contractor held a Joint Evaluation Team (JET) meeting to discuss the level of readiness review required for moving the D-10 tank from a cell in the U Plant canyon to a shipping container and determined that they will propose a Level 3 Readiness Assessment to RL.

Tank Farms: The contractor held a critique this week when it was determined that workers hung their authorized worker locks on the wrong lock-box. Although the items that were locked-out were the same on the two lock-boxes and workers were not in danger at the time they did the work, they did not use the lock-out that was identified in the work package. This is another example of a site-wide problem with following written instructions in work packages. Compensatory measures have been put in place and a causal analysis will be performed.

The contractor transferred a Californium-252 source from the 222-S Laboratory to PNNL for use in their dosimetry calibration facility. After delivery, PNNL workers could not completely insert a lock pin in the lid of the container used to store the source. A recovery plan was developed.