

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 13, 2009

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending March 13, 2009

Waste Treatment Plant: The contractor submitted to the Office of River Protection an Authorization Basis Amendment Request (ABAR) for the Analytical Laboratory that significantly changes the control strategy. The ABAR removes controls for protecting the co-located workers and the public based on a revised calculation of unmitigated dose consequences. The revised dose calculation uses an atmospheric dispersion coefficient of $3.5 \times 10^{-3} \text{ s/m}^3$ from DOE-STD-1189, and, because the results are well below radiological exposure standards, the ABAR requests cancellation of the analysis of the design basis events for seismic and facility fire. The ABAR proposes that the primary control to protect the facility workers from radiological releases due to a fire in the hotcell or seismic events is evacuation of workers from the building. The contractor requested approval of this ABAR by April 30, 2009.

Plutonium Finishing Plant: The Richland Operations Office (RL) issued the Safety Evaluation Report (SER) for the revision to the Justification for Continued Operation (JCO) for use of the older HEPA filters (see Activity Report 2/13/09). The SER had two conditions of approval (COA): HEPA filters shall be classified as safety significant for fire accidents; and the final design package shall include robust combustible controls, ignition controls, and hot work controls based on a new Fire Hazard Analysis, and this fire safety control set shall be integrated with Technical Safety Requirements (TSR) to provide reasonable assurance filter rooms will survive safety basis fire accident scenarios. RL review of the preliminary dose consequence analyses led to their conclusion that the filters “should be classified as safety significant (SS) for fire accidents as these engineered systems and components are capable of a substantial mitigative benefit under postulated accident conditions, and are therefore a major contributor to defense in depth” consistent with the philosophy in DOE-STD-3009. RL requested the revised Documented Safety Analysis and TSRs by April 25, 2009, and the filter rooms with the oldest filters (older than 20 years) be taken off-line and isolated within 90 days.

Poor conduct of operations appears to have resulted in the spread of contamination during efforts to remove a seal plate and shaft from a glove box. Fourteen workers evacuated from the room after a continuous air monitor alarmed, but no personnel contamination or uptakes were detected. Personnel involved with removing the seal plate encountered at least two unexpected situations, but rather than stopping and replanning the work, they decided to improvise. One hypothesis for the increased airborne contamination is the seal between the glove box and glove bag broke as a result of the unplanned additional work. The site rep questioned both RL and the contractor why a critique was not held for the event. A contractor manager said the procedure for the critique process will probably be revised to ensure that events like this result in the initiation of the formal critique process rather than relying on a post-job meeting for collecting lessons learned.