DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 17, 2010

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending December 17, 2010

Board staff member T. Hunt and outside expert D. Boyd were on-site reviewing conduct of operations and radiological work practices at the Plutonium Finishing Plant (PFP).

Tank Farms: The contractor was preparing to cut a 55-inch diameter opening in the concrete top of waste tank C-107 to allow installation of the new Mobile Arm Retrieval System (MARS). They were proceeding to drill a ¾-inch pilot hole, but the site rep questioned why they were commencing before they completed the prerequisite steps in the work package. Various levels of contractor managers, supervisors, and workers believed it was acceptable to not complete the prerequisites because this approach had been discussed in the work planning and review meetings. One of the prerequisite steps was to start the headspace exhauster fan to prevent venting contamination out of the tank, but the contractor believed the exhauster was not needed until they started cutting the large opening. The contractor subsequently completed all the prerequisites in their work package prior to starting the work.

Last week, DOE HQ completed an assessment of specific administrative controls. The assessment team noted at the outbrief that the double-shell tank ventilation system provides a safety function to protect workers but is not classified as safety-significant. The rationale they used to reach this conclusion is similar to that used in the Board's August 5, 2010, letter.

Plutonium Finishing Plant: The contractor discovered during recent NDA activities that the analyzed quantity of fissile material in a pipe was exceeded and constitutes an unreviewed safety question. This pipe is located in the ventilation exhaust facility that was previously analyzed to not require criticality controls. Compensatory measures are being implemented, including controlling access to the building and prohibiting any work in or near the pipe.

Workers started using the decontaminant Aspigel® for the first time, but the process was slower than expected. Mixing the decontaminant and removing it from the interior of gloveboxes was more difficult than during training, but workers were able to complete the process.

This week, the contractor began size-reducing gloveboxes in a tented structure with its own HEPA filter within the facility. The contractor needs to size-reduce approximately 60 hoods and gloveboxes that are too contaminated to be disposed of as low-level waste but can be placed in a Standard Waste Box and shipped to the Waste Isolation Pilot Plant.

Plateau Remediation Contractor: The contractor categorized an occurrence report as recurring due to repeat events involving violations of lock and tag procedures. Since April, the project has documented 11 events at several different facilities and most involved electrical work.

Waste Treatment Plant (WTP): The project selected controls to protect the two emergency diesel generators (EDGs) from a volcanic ashfall event. The project envisions that six to eight tractor-trailer-sized filter units will be needed to provide the required airflow capacity.