

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 5, 2013

TO: S. A. Stokes, Acting Technical Director
FROM: D. Gutowski and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending July 5, 2013

Plutonium Finishing Plant (PFP). Six months after a contamination spread during D&D work on a glovebox (see Activity report 1/4/2013), workers inadvertently spread contamination again during work to replace a port cover on the same glovebox. This glovebox has the highest holdup value at PFP and the material in the box is easily mobilized. The contractor had not originally planned to replace a cracked and heavily contaminated 24-inch cover on a glovebox port, but limited visibility through other ports led to a decision to install a new, clear cover. A continuous air monitor alarmed during setup to remove the old cover. Workers responded to this event in a manner consistent with lessons learned from the January event. Workers wearing appropriate PPE, including respirators, provided undress assistance. All six workers from the room had contamination levels of up to 20,000 dpm/100 cm² alpha on their outer PPE and respirator filters. One person had 800 dpm/100 cm² alpha on their inner PPE. All workers cleared the personnel monitors and will have bioassays performed.

The contractor decided that a critique was not needed and a post job review would be adequate. This is compliant with the contractor's procedure but is a change from past practices. As such, personnel outside of PFP were not notified, and the additional perspectives on work planning and control that could be provided by a formal critique were missed. The site rep questioned if the work package had the appropriate controls for replacing this large, heavily contaminated port cover.

In a separate work evolution that occurred just prior to the above radiological event above, workers performing a safe-to-work check on a facility transformer discovered 80Vac between the neutral and ground conductors. They had expected to find no significant voltage. The workers stopped the job and held a critique where they postulated that electrical code requirements may not have been met while implementing facility changes a number of years ago.

On the same morning, workers had loaded TRU waste on a truck so that it could be sent to the Central Waste Complex (CWC). However, the outside temperatures were so high that workers at both PFP and CWC were not allowed to unload the truck. The loaded truck did not leave PFP, and this resulted in a non-conformance with TSR administrative controls for combustible material. Planning for this waste shipment was inadequate given the expected weather.

Tank Farms. The Office of River Protection (ORP) approved the safety basis addendum that addresses a potential water hammer scenario during the planned supernate transfer from double-shell tank AY-102 to AP-104. The contractor has implemented the addendum, completed the transfer procedure, and is awaiting ORP direction to initiate the supernate transfer.

Investigative radiological survey results from the pump used in the AY-102 leak detection pit pump showed elevated levels of contamination compared to expected results from leak detection pit pumps. ORP and the contractor are attempting to determine the source of this contamination as sample results from the liquid in the pit did not show elevated contamination levels or other indications of tank waste.