

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 25, 2012

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending May 25, 2012

R. Quirk was off-site this week. Board staff member J. Troan was on-site observing DOE's pilot study of beyond design basis events at the Waste Encapsulation and Storage Facility and providing site rep support.

Plutonium Finishing Plant (PFP): Late last week, the facility shut down normal ventilation again to address a concern that bolts on three of the fans may have been over-torqued. During the post-job review, workers questioned if too much torque had been applied to the bolts for the bearing casings because they used a torque value for ungreased bolts, but there was a chance the bolt holes had bearing grease in them. Management conservatively decided to shut down the normal fans and bring up the steam-driven turbine exhaust fans to allow replacement of the affected bolts. The shutdown of the normal ventilation system required entering the Limiting Conditions for Operation (LCO) and the termination of activities. The project completed the replacement of the bolts and exited the LCO on Tuesday.

During a review of plans to remove a glovebox from under a wall, a project engineer questioned if the wall would be adequately supported. In August 2011, a water wall had been removed adjacent to where they were planning to remove the glovebox and removing the glovebox could cause the wall to become unsupported. This steel partition wall is non-load-bearing, but project management restricted access to the area until additional structural supports could be installed.

Waste Treatment Plant (WTP): Late last month, the contractor provided responses to the Office of River Protection (ORP) findings on margin management and erosion/corrosion. The contractor's response strategy for margin management includes conducting compensatory actions and a root cause analysis (RCA). Included in the compensatory actions are reviews by the Engineering and Nuclear Safety organizations of current design changes to understand the impact of these changes to engineering margin (such as approaching code limits) and nuclear safety margin (such as the effect on functional requirements). A RCA for the erosion/corrosion issues is also being prepared and a programmatic common cause analysis will be conducted by reviewing findings and causes for the past three years. This common cause analysis will be used to identify common factors affecting the project's overall performance issues.

The site rep observed the "kick-off" meeting of a hazard analysis (HA) for the storage of hydrogen peroxide and cerium nitrate in a room in the High Level Waste (HLW) facility. These chemicals are used in decontamination of waste canisters and are going to be stored in the same room. This HA was prompted by a review by a contractor engineer who noted that the inadvertent mixing of these chemicals had not been analyzed. The facilitator of the HA had completed significant background work prior to starting the session but did not clearly lay out the methods in which the hazards would be analyzed. In addition, the hazard associated with combining cerium nitrate and cellulose was not identified for review until noted by the site rep.

Sludge Treatment Project (STP): The contractor started their Readiness Assessment (RA) for Knock-Out Pot Material Processing. The RA should finish next week.