

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 2, 2010

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending July 2, 2010

Board staff members R. Kazban, B. Sharpless, and J. Troan were on-site reviewing various projects under the cognizance of the Richland Operations Office (RL).

Plutonium Finishing Plant (PFP): The contractor completed a readiness assessment (RA) for cutting and removal of the pencil tanks from the plutonium reclamation facility. The RA team was well prepared and their review was adequate. The RL oversight team was almost as large as the RA team and their oversight was also adequate. The contractor RA team identified four pre-start and five post-start findings and six observations, of which two were positive. None of the findings will require major changes, and one of the positive observations was project personnel demonstrated excellent performance of their assigned operations.

Waste Treatment Plant: The contractor issued a report with recommended changes to the design criteria for volcanic ashfall as well as how to mitigate the event. Suggested changes include: reducing the design basis rate of ashfall and ash concentration from a PC-4 to PC-3; using the Cascades Volcano Observatory Alert Notification System; modifying the safety-related HVAC in the Pretreatment and High-Level Waste facilities to be tolerant of ash; crediting ash dropout in the HVAC system; using trailer-mounted equipment for the Main Control Room chiller and safety-related air compressors; and evaluating if a mobile filtration system can be used for the emergency diesel generators.

The contractor held an integrated safety design meeting to discuss exempting a safety-significant (SS) valve from requirements that it comply with ISA S84.01-1996. The valve is used to prevent adding too much sucrose to the glass former mix because excess sucrose can lead to HEPA filter plugging and flammable gas problems. The SS valve, a backup to the normal automatic process control valve, is controlled remotely from the facility control room and has no automatic operation. The contractor's justification for deleting ISA S84.01-1996 is that the standard specifically notes if operator action is the sole means to return the process to a safe state, such as shutting this sucrose silo isolation valve, then the standard is not applicable. Additional information is required to determine if this operation is consistent with the Safety Requirements Document (SRD). The SRD requires engineered safety systems "(1) to initiate automatically the operation of appropriate systems to assure that specified acceptable design limits are not exceeded as a result of anticipated operational occurrences and (2) to sense accident conditions and to initiate the operation of safety systems and components." The contractor is re-evaluating options for meeting this safety requirement.

Tank Farms: The contractor determined that a potential inadequacy in the safety analysis associated with a water skid being able to over-pressurize safety-significant waste transfer piping is an unreviewed safety question. The contractor is developing new controls for this issue.

The site rep attended a contractor senior management review where radiological controls, conduct of operations, and environmental protection problems were reviewed. The contractor has initiated significant corrective action programs for all of these problems.