

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 30, 2012

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending March 30, 2012

R. Quirk was off-site this week.

Waste Treatment Plant (WTP): DOE provided the contractor the results of their surveillance of the project's management of design and safety margins. DOE found the contractor did not establish a margin management strategy that maintained design and safety margins commensurate with a design-build project. The surveillance report notes that this "adverse condition is a Priority Level 1 finding because it is a systemic breakdown that has impact on quality, worker health and safety, the public, the environment, facility operations, and regulatory compliance." The report cites several DOE Orders and contractor-written commitments as the basis of the finding and instances in which the contractor's procedures that govern design lacked sufficient direction to ensure margin in the design. In addition, the report lists several examples in which DOE or the contractor identified a lack of adequate margin or the elimination of design margins as a concern.

In addition to the finding noted above, DOE also identified another Priority Level 1 finding associated with the potential breakdown in contractor management and their less than adequate performance. This finding was identified as a result of several recent DOE oversight activities in which inadequate performance was an issue, such as the finding related to margin noted above. The report concludes that these performance issues "could have significant impacts on the successful completion of the WTP project."

Lastly, the Office of River Protection transmitted results from their evaluation of erosion of components in black cells. One of the Priority Level 1 findings in this report relates to a failure to flow down quality requirements that may have led to serious under-estimates of erosion wear allowances in the fabricated and installed vessels, piping, and mixing systems.

Tank Farms: A worker discovered contamination on their personal clothing during the exit survey from C Tank Farm. The contamination was found on the worker's sweatshirt with the highest reading being 60,000 dpm per 100 cm² beta-gamma and no alpha. The work activity in the farm was to conduct preparations for future intrusive work and it appears these activities would have low risk for contamination. The contamination was discovered after the worker doffed his protective clothing and entered the personal contamination monitor (PCM), which alarmed. The worker re-entered the PCM, which alarmed again. The worker then decided to remove his sweatshirt and try again instead of calling for support, which is the required action after receiving two PCM alarms. After removing the sweatshirt, the worker re-entered the PCM, which did not alarm this time. The worker informed a radiological control technician after lunch that the contaminated sweatshirt needed to be controlled. The radiological controls organization conducted surveys of all the areas the worker had traveled and equipment contacted, but they did not find any spread of contamination or the source. Of note, the contamination was not discovered on the outer protective coveralls over the sweatshirt. During the critique, participants discussed making the instructions and the contact number for support after getting two alarms more obvious at the PCM station.