

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 28, 2003

TO: K. Fortenberry, Technical Director
FROM: D. Grover and M. Sautman, Hanford Site Representatives
SUBJ: Activity Report for the Week Ending March 28, 2003

David Grover was in training this week.

Waste Treatment Plant (WTP): The staff reviewed the Cs ion exchange system design, hydrogen mitigation strategy, authorization basis proposals, and several other design and process chemistry issues. One area that was particularly disappointing was the review of the Office of River Protection's (ORP) design oversight activities, especially in light of a recent Board reporting requirement on this topic. For example, although ORP transmitted the ultrafiltration system design oversight report to Bechtel National Inc. (BNI) nearly five months ago, none of the ORP team members has tracked the status of their issues and actions since then nor have they reviewed the adequacy of BNI's actions to close the issues. The staff also discussed BNI actions taken to address the concerns identified in an ORP design oversight report on the Cs ion exchange system. Unfortunately, the staff was unable to substantiate the basis for ORP's concern that the "system is overly conservative based upon unrealistic safety considerations . . . This adds significant complexity to the design and operation" since none of the ORP team members attended the discussion. The staff is particularly interested in this position since BNI's response to it has been to investigate whether crediting hydrogen solubility in the waste would allow the upper gas purge volume to be removed from the design and the Important to Safety hydrogen purge system to be possibly eliminated. (The WTP design strategy is solely to prevent a hydrogen explosion, not to mitigate one). The staff is skeptical of this novel proposal since the waste temperature can increase during an accident which leads to an exponential increase in the hydrogen generation due to thermolysis. This would likely overwhelm any changes to hydrogen solubility. The staff will have a follow-on discussion with ORP line management on this topic next week. (I-C)

Tank Farms: A Readiness Assessment (RA) was completed for the removal of residual radioactive liquids from the 244-AR vault, tanks, and sump using a temporary transfer system. The contractor RA team, which was one of the stronger ones observed, identified nine pre-start findings and six observations. The ORP Oversight Team identified an additional three findings and ten observations. (I-C, III-A)

233-S: There was a stand down recently to address a long list of worker complaints which involve nearly every aspect of Integrated Safety Management. The issues include work definition/planning, conduct of operations/procedure compliance, fear of reprisal, production over safety, ALARA, training, supplies, and safety concerns. Poor pre-job briefings, lack of worker input, and electrical hazards were frequent concerns. In a recent event, workers began removing primary building ventilation filters first rather than the secondary ones first. The Site Rep will be discussing these issues with the new acting project director next week. (I-C, III-B)

cc: Board members