

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 10, 2011

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending November 11, 2011

Office of River Protection (ORP): The WTP and Tank Farms contractors formed an organization to combine resources to prepare to feed WTP (known as the One System Approach). The manager will be from WRPS and his deputy will be from BNI. The estimated 150 employees assigned to this team are expected to co-locate during the next month.

Waste Treatment Plant (WTP): The site rep noted a lack of a formal process during the first session of a hazard and operability analysis (HAZOP) conducted for parts of the process vessel vent system. The HAZOP is in response to the ORP surveillance that questioned the installation of components that do not comply with requirements in the safety basis (SB) (see Activity Report 10/21/11 and 11/4/11). This HAZOP is being conducted to provide SB coverage to allow continued installation of system piping and appears to be expedited to support the near-term production schedules. The site rep did not expect to see the full application of the rigorous process to identify the potential hazards during this first session, but there was a failure to clearly lay out the foundation for a formal HAZOP process. The site rep discussed these and other observations with ORP and the contractor.

The site rep observed a test of a scaled model of a pulse jet mixer that is being used to evaluate the project's assumption that the modeling of Newtonian mixing will bound the mixing properties of non-Newtonian liquids. The test is being conducted with Newtonian and non-Newtonian simulants, and the area of cleared solids at the bottom of the tank for each simulant will be compared to evaluate the modeling assumption. These tests appear to be in response to questions raised by the staff on the validity of the modeling assumption.

Tank Farms: ORP approved the justification for continued operation for waste transfers during low temperature conditions (see Activity Reports 11/4/11). The major compensatory action is to monitor the temperatures of the various safety-related components and ensure they are greater than 32° F. The contractor is preparing design change packages for installing a significant number of thermocouples so temperatures can be monitored. This is another example in a series of design problems the contractor has encountered since they upgraded the waste transfer components to safety-significant last year.

100 K Area: Last Friday, a worker was contaminated on his modesty clothing and arm in the K West Basin while monitoring the level of the sludge in the engineered containers. The contamination was removed and a critique was held, but workers were unable to identify the source of the contamination. The contractor is initiating a new management directive that will require increased supervisory oversight of pre-job briefings and radiological practices in the field.

Richland Operations Office: The site rep observed the final qualification oral board for S. Y. Ki as a facility representative and noted the questions and responses were adequate.