

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 3, 2009

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending April 3, 2009

Waste Treatment Plant (WTP): The contractor conducted its first Safety Input Review Committee (SIRC) meeting (see Activity Report 3/6/09). The purpose of this meeting was to allow contractor senior managers to come to a consensus for the basis of input values and assumptions for future Safety Basis (SB) changes. A WTP nuclear safety representative presented two topics to his management: 1) the new material at risk (MAR) values and 2) input parameters for the accident analysis of seismic and hydrogen events. The presentation on MAR addressed the use of unit liter dose (ULD) values from the Tank Farms DSA along with various WTP process assumptions to derive the ULD values for revising WTP accident analyses. The second topic presented the factors that will affect the severity of hydrogen events and the plant initial condition assumptions used for the accident analysis of seismic events, such as the assumed amount of waste in vessels. In addition, the selected atmospheric dispersion modeling assumptions were provided. The SIRC voting members approved the input values and assumptions for these topics. The contractor will submit the results to the Office of River Protection (ORP) for its independent review and approval, but ORP still requires the contractor to submit a formal change request to revise the SB. The site reps noted that there were relatively few questions from the committee considering the extensive amount of information being presented and were told by the contractor and ORP that many of the questions had been answered at the dry-run for this meeting. The site reps were not invited to the dry-run and therefore were unable to observe the rigor of the questions or gage the value of the SIRC process.

The Phase I testing at the Pretreatment Engineering Platform has been completed. The contractor reports that its initial review of the data indicates that there is good correlation of results between laboratory-scale testing and results from these tests.

Tank Farms: The contractor held its first meeting to re-evaluate significant facility worker hazards as part of the planned change to the SB to comply with DOE-STD-1186, -1189, and -3009 Change Notice 3. The contractor used what was described as a reasonably conservative method to estimate facility worker radiation dose and compared it to the 100 REM TEDE facility worker guideline in DOE-STD-1189. A similar method was used for comparing the toxicological exposure to Protective Action Class (PAC)-3 limits. The analyses use order of magnitude estimates of the quantity released, estimated dilution volume, and estimated time to evacuate, and ULD (for radiological) or unit sum of fractions (for toxicological) to determine if guidelines are exceeded.

Electrical Utilities: The Richland Operations Office (RL) started a reactive or “for cause” surveillance of the work practices of Electrical Utilities (EU) personnel due to several recent events (see Activity Report 3/27/09). The RL Subject Matter Expert has noted poor communications and coordination between the EU and facility personnel. In addition, the surveillance is being expanded to review corrective actions for a 2007 event at the 100 K Area. In the 2007 event, power was restored and caused the unexpected restart of a service water pump, similar to the event last week, and it is unclear why corrective actions by the 100 K Project personnel failed to prevent recurrence.