

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 23, 2010

**TO:** T. J. Dwyer, Technical Director  
**FROM:** W. Linzau and R. Quirk, Hanford Site Representatives  
**SUBJECT:** Hanford Activity Report for the Week Ending April 23, 2010

Waste Treatment Plant: The contractor held another in a series of integrated safety design meetings to discuss the evolving design for mitigating the design basis ashfall event (see Activity Report 8/7/09). The project had previously determined they will need approximately half of the C5V inbleed dampers in the Pretreatment Facility open during the ashfall event to ensure they have adequate cooling for rooms with safety components, but the other half must be shut to prevent the C5V filters from overloading with ash. The site rep questioned how the dampers could be credited to perform a safety-class (SC) function without being upgraded to SC.

100K Project: The site rep questioned if the safety-significant controls to prevent and mitigate the consequences from a spray leak during the retrieval of containerized sludge should be upgraded to SC. The unmitigated dose to the public from a spray leak is less than 4 rem TED, but this was evaluated at 10 kilometers from the 100K Area. The unmitigated dose at the river's edge, approximately 500 meters away, would be more than 10 times the evaluation guideline for requiring SC controls. The Richland Operations Office (RL) will evaluate if the distance to the river bank should be used to determine the functional classification of SSCs because neither DOE nor their contractors control public access to the river. This is analogous to the issue with the public access highway that crosses the site (see Activity Report 2/26/10).

RL agreed with the contractor that intrusive characterization of the K East Reactor as well as other work in preparation for D&D is less than HC-3 work and concluded the core removal work is not a major modification. The characterization data will be used to determine if the reactor demolition will require safety grade controls. RL imposed a condition of approval that any equipment procured prior to the safety analysis of the demolition, such as new ventilation equipment, be able to be upgraded to the appropriate safety pedigree.

Waste Retrieval Project: The project completed their root cause analysis for the events in Trench 11 during the ISMS Phase II verification in February. The analysis revealed several weaknesses in the project, including: changes in working conditions outside normal operations were poorly identified and conservative responses were not always taken; limited training and procedures existed to address abnormal events that were not emergencies; and a risk-accepting culture suppressed a tendency for conservative responses. The contractor is developing a restart plan to be included in the corrective action plan. Work will be restarted incrementally to demonstrate implementation of ISMS to a contractor corporate review team and then to DOE.

River Corridor Closure Project: The contractor held a workshop to discuss the plans to remediate the silos in the 118-K Burial Ground and the proposed start-up review. Additional controls have been added to the original plans to address the potential discovery of a higher dose item, such as an irradiator. These additional controls include a camera and probes at the end of the boom to allow inspection and measurement of dose rates prior to collecting the waste and monitors at the top of the silo to remotely check dose rates before removing the waste from the silo. The contractor will propose to DOE that a contractor project start-up review is the appropriate readiness review because this work and the hazards are similar to the contractor's normal work.