

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 16, 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 16, 2010

Staff members S. Seprish and S. Stokes were on-site to observe a panel of experts reviewing issues related to hydrogen in pipes and ancillary vessels at the Waste Treatment Plant.

Waste Treatment Plant: The contractor held an integrated safety design meeting to reclassify components previously classified as Additional Protection Class (APC) in the Analytical Laboratory. The APC classification was the project's classification for components that were less than safety-significant (SS) but were considered as important to safety. The project eliminated the use of this classification and is in the process of evaluating components previously classified as APC. During the meeting, the participants defaulted to crediting administrative over engineered controls on several occasions. An example is an alarming gamma monitor in the current design to protect workers from exposure when removing waste samples from the hot cell. The participants determined that crediting the radiological controls program to provide a technician with a handheld meter was the preferred control to protect workers from an event with high consequences. The site rep reminded the participants of the hierarchy of controls from DOE-STD-3009, but participants appeared unaware of the implications. In addition, participants implied that administrative controls were preferred because the engineered feature could be procured with lower quality requirements if not credited as a SS control. The site rep related concerns to both contractor and Office of River Protection (ORP) nuclear safety personnel.

Tank Farms: Last week the contractor submitted improvements to their previously submitted corrective action plan for issues related to inadequate radiological control practices (see Activity report 3/12/10). The actions are more in line with ORP's expectations, but will take time to implement. This week, ORP requested that the contractor institute compensatory measures, including: a sufficient number of trained, drilled, and proficient abnormal event responders are available for all medium- and high-risk work; peer reviews must be performed on medium- and high-risk radiological work plans; qualified observers who can identify and will correct poor radiological work practices are to be sent to the field; and senior managers must provide direct, in-person, expectations for the performance of radiological work to the field work supervisors and radiological workers. On Monday, the contractor had a stand-down where the compensatory measures including their senior manager's expectations were presented. Management issued a standing order and will assign mentors to address the remaining compensatory measures.

Dose Conversion Factors: The Pacific Northwest Site Office (PNSO) approved the justification for continued operation (JCO) of the Radiochemistry Processing Laboratory related to incorrect dose conversion factors (DCFs) for plutonium (see Activity Report 2/26/10). The JCO limits the inventory of material at risk such that the accident doses are not impacted. The JCO notes that in addition to the DCF for plutonium being incorrect in the Radidose computer code, other DCFs are incorrect including strontium. The site rep contacted Richland Operations Office and contractor safety analysis leads to ensure they were aware of this error. For two of facilities that may be impacted by this error, Building 324 and the Waste Encapsulation and Storage Facility (WESF), the projects determined that a conservative value had been used at Building 324 and it was not a PISA at WESF.