

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 16, 2009

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending October 16, 2009

Waste Treatment Plant: The contractor senior management review team approved the safety basis (SB) changes related to material at risk (MAR) and hydrogen controls. The change package is composed of: an Authorization Basis Amendment Request to the Safety Requirement Documents that revises controls for hydrogen in piping and ancillary vessels (HPAV); a revision to the Basis of Design to change piping design requirements based on the new strategy for MAR, HPAV, and seismic controls; and an Addendum to the PDSA to implement MAR and hydrogen control changes. The Addendum includes a section that addresses uncertainties due to open issues but contained statements that the site rep questioned. Foremost, the site rep disagreed with wording that allowed the contractor to approve future SB changes (such as downgrading the functional classification of components) once the open issue was resolved and without specific Office of River Protection (ORP) approval. The contractor and ORP agreed that pre-approving SB changes was not allowed by procedure, therefore ORP will include a condition of approval that requires the contractor to provide technical basis for SB changes. In addition, the site rep questioned the contractor to ensure that structure, system, and components that were previously classified as safety-class or safety-significant (SS) would not be downgraded to below SS. The contractor confirmed that to be the case and noted that future downgrades of classification could only occur after specific open issues were closed. The contractor and ORP completed comment resolution, and ORP is expected to approve the change package within a week.

Senior contractor management approved modifications to the LAW offgas system design to address safety concerns raised by ORP (see Activity Report 7/02/09). The modifications will shift the exhaust fans downstream of the gas treatment equipment so the offgas will not be pressurized until the treatments are complete. This modification will significantly reduce the potential for harm to workers from a leak of toxic gases.

Tank Farms: The contractor determined that for the last three years they had not correctly performed TSR-required flammable gas sampling for tank C-204. Workers took samples from the wrong riser that had a passive filtered vent, which invalidated the results. The work order provided to the technicians provided conflicting instructions for the sample point. This discrepancy was overlooked during the three annual performances. The cause of the mismatch between the procedure and field condition appears to be related to the failure to correctly update the procedure when the riser-mounted equipment was modified. Additionally, the procedure used for TSR compliance provided little guidance to the personnel taking the sample other than to take it from a specific riser. The site rep compared this procedure with another tank farm TSR surveillance procedure and noted the second procedure had a more appropriate level of detail. The site rep suggested to the contractor operations manager that an extent of condition review be performed to check for similar weaknesses in other TSR compliance procedures.

100K Project: The contractor completed a post-job ALARA review for the removal of the K East Basin (see Activity Report 7/10/09). This proactive step generated numerous lessons learned that can be applied to the removal of the K West Basin as well as other projects.