DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 12, 2013

TO: S. A. Stokes, Acting Technical Director
FROM: D. Gutowski and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending April 12, 2013

Tank Farms. The site rep observed the completion of the caustic addition to double-shell tank AN-102. The addition of the last tanker truck of caustic proceeded without incident. The contractor expects that the tank will not require further caustic additions for chemistry control for ten years. The contractor initiated an investigation through their Quality Assurance organization to determine the causes behind the use of an aluminum elbow in a caustic system (see Activity Report 4/5/2013).

The contractor and Office of River Protection held a series of meetings this week to evaluate possible retrieval alternatives that address the potential hazards of tanks with deep beds of sludge waste where gas retention and release behavior is not fully understood (see Activity Report 3/29/2013). Their ranking of the alternatives considered nuclear safety impacts as a weighting factor. The group did not reach a final decision on this topic, but narrowed down potential options for additional development. The highest rated option was to retrieve to a third double-shell tank which limits generation of deeper sludge layers in the current receipt tanks.

The contractor declared a Criticality Prevention Specification Nonconformance due to a small potable water addition to tank C-107 that had not been analyzed. Activities in this tank were restricted until the nonconformance was resolved.

Waste Encapsulation and Storage Facility. The site rep observed workers attempting to calibrate a continuous air monitor (CAM) for the exhaust stack and noted issues that were similar to those previously identified by the staff and addressed in Board letters to DOE. These issues included workers identifying problems with the work package during the pre-job brief and technical errors in the work package that prevented them from completing the calibration. Positive aspects of the work execution noted by the site rep included workers marking each step as it was completed even though this is not required by the contractor practices, clear denotation of which craft workers should be performing steps, and workers stopping when they encountered a problem with the execution of the work package.

100K Area. In response to a number of problems related to work not being performed in a formal manner, the contractor completed a self-assessment last month. The assessment team reviewed various sources of information, including issues identified by the Nuclear Safety and Performance Evaluation Board, and identified several broad areas where performance did not meet expectations. These areas included: roles and responsibilities, management leadership, ownership by workers, prejob briefs, and procedure use and adequacy. Managers and workers were then surveyed to identify areas where they had different perceptions of requirements. The results of the survey showed differences between management and worker expectations in several areas including: worker participation in aspects of work planning, expectations for work instructions to be followed, and feedback after work was performed. The management at 100K proposed corrective actions and these are being evaluated by senior contractor management and Richland Operations Office personnel.