

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 18, 2008

TO: J. K. Fortenberry, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending April 18, 2008

Building 325 (Radiochemical Processing Laboratory): A worker received an estimated exposure of 11.8 Rad to his left hand, most likely received when he handled a small sample vial that had 100 times the planned amount of radioactive material. The exposure was detected during the quarterly reading of his finger dosimeter. A review of his activities led to the preliminary conclusion that the event happened on February 20, 2008, when the hot cell technician briefly handled a sample container with Sr-90 and Y-90 that was in the airlock of the hot cell. The higher dose was caused by personnel drawing the sample from the wrong titration column in the hot cell. The preliminary calculation of the contact reading on the sample vial was 26 Rad per second. Inadequate communications led supervisory personnel to believe that the sample had not been handled, which resulted in the failure to: adequately investigate the problem, notify DOE of the event, and count the dosimeter until this week.

Tank Farms: The site rep noted that the Problem Evaluation Report (PER) for a recent failure of the leak detection capability of the Monitoring and Control System (MCS) (see Hanford Activity Report 4/11/08) incorrectly concluded that the system was still operable. The PER was revised and Engineering performed an operability review. A temporary change notice was issued by Engineering to disconnect the failed equipment in AW and AN Tank Farms so that the safety-significant leak detection capability of the MCS could be returned to service.

The Office of River Protection (ORP) completed a performance-based review of the PER system that focused on how problems are categorized. Preliminary indications are that about one-fourth of the PERs written in 2007 were categorized at too low of a level, which could result in less than adequate corrective actions.

River Corridor Closure Project: The contractor is planning to start remediation of the third trench at the 618-7 Burial Ground. The material from this trench, known as the Thoria Pit, has to be segregated from material from the other trenches to remain below the Hazard Categorization 3 (HC-3) threshold as required by the Final Hazard Categorization (FHC) document. The project informally defined spacing limitation and plans to use concrete barriers to provide separation of the material for events, such as the design basis fire. They have not developed the formal procedures that will ensure segregation.

Waste Receiving and Processing Facility (WRAP): It was discovered this week that workers were using forms with their signatures photocopied instead of signing them as the procedure required. The procedure requires the workers to torque the waste drum closure bolt, record the data (torque applied, torque wrench number, calibration date, drum identification number, etc.), and then print, sign, and date indicating compliance. Review of the records has revealed that since November or early December, some workers photocopied the form with data, including their signature, already entered. This practice was done for a set of drums with the same torque requirements using the same torque wrench. The quality form is used on-site to confirm compliance with Waste Acceptance Criteria for the Waste Isolation Pilot Project.