

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 21, 2006

TO: K. Fortenberry, Technical Director
FROM: R. Quirk and W. Linzau, Hanford Site Representatives
SUBJECT: Activity Report for the Week Ending July 21, 2006

Tank Farms: The site reps attended a meeting to discuss problems with AY/AZ Farm exhaust HEPA filters. The problems included the presence of ammonium nitrate and wetting of the filters. Ammonium nitrate vapor from the tank waste has seeped through seals on the housing and collected on the floor of Building 702-AZ. The contractor has evaluated the potential for an energetic reaction in the filter housing and believes that the hazard is minimal because this phenomenon has been researched elsewhere and is well understood. Two lines of ventilation exist in the system and both have indications of ammonium nitrate but the exact quantity is unclear. The wetted filters are in one of the lines and it has been shut down. The project is taking steps to replace the wetted filters, clean up any build-up in the housing, and determine what steps are necessary to prevent future build-ups.

A fac rep is leaving to accept a position as a fac rep at Brookhaven National Lab. Two other tank farm fac reps have been promoted in the last six months. The Office of River Protection is evaluating how to fill these vacancies.

Waste Treatment and Immobilization Plant (WTP): A feasibility study was completed for beginning operation of the Low Activity Waste (LAW) facility prior to completion of the entire plant. A number of options for limited pretreatment of the waste in the tank farms before transferring it to the LAW facility for vitrification were evaluated. The study estimates that a significant amount of waste could be processed before the rest of the WTP is finished. The effort would require modifications of the WTP waste transfer systems and the design and construction of new structures and systems in the tank farms. These changes would require appropriate levels of hazard analysis and control development. Plans call for completing the Critical Decision (CD)-0 package in approximately one month.

The site rep observed the collection of cores from entry hole number 1 (C4998), which was completed last week. The entry hole terminated at a depth of 401.5 feet and the coring of the basalt began. The first cores extracted appear to have naturally occurring cracks or fractures but latter cores were removed whole. The observed process during retrieval of the cores prevented loss of material, breakage, and reversal of pieces, and appeared to be in a manner to allow for accurate future evaluation.

Plutonium Finishing Plant (PFP): The site rep attended a meeting of the Deficiency Evaluation Group, which discussed corrective actions from the event in which the required airborne radioactivity area was not set prior to opening a potentially contaminated system (see Hanford Activity Report 6/23/2006). The corrective actions proposed included defining activities that require direct oversight by the person in charge and an evaluation of the pre-job meeting process to ensure hazards and controls are appropriately covered.