DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 17, 2003

TO: K. Fortenberry, Technical Director
FROM: D. Grover and M. Sautman, Hanford Site Representatives
SUBJ: Activity Report for the Week Ending January 17, 2003

Waste Treatment Plant (WTP): The Site Rep observed concrete being placed on the cold joint at the Low Activity Waste Facility. As a result of a communications problem, curing agent was mistakenly applied to a section of the placement, but was later removed since the placement was to have a wet cure. Due to problems with the battery of the remote control unit, the concrete pump truck boom struck the roof of the tent covering the placement twice, damaging a 2"X4" roof support. The Site Rep inspected the cracks at the High-Level Waste (HLW) Facility (see last week's report) after portions of the surface had been roughened. In those areas, the cracks did not appear to penetrate that far below the surface. The Board staff discussed these cracks with the Office of River Protection (ORP) and Bechtel National Inc. (BNI) later in the week. BNI might be able to avoid having to increase the height of the HLW facility due to space problems in the cell corridors by rerouting utilities and removing equipment. However, there may be some tradeoffs in operational flexibility and making the areas quite tight for this stage of design. The Site Rep also discussed proposals for the authorization basis maintenance process and Safety Requirements Document with both ORP and BNI senior managers. (I-C, III-A)

Tank Farms: After weeks of discussion with the Board staff, the Office of River Protection Manager issued replacement nuclear safety risk classification and control selection guidelines that addressed most of the staff's concerns. (I-C)

Plutonium Finishing Plant (PFP): PFP is pursuing three methods for dealing with 1100 kgs of scrap plutonium oxide that are potentially contaminated with chlorides: 1) wash the chlorides out using modified precipitation columns, 2) screen oxides for chlorides with prompt gamma, and 3) extend the Rocky Flats technical equivalency for lower temperature stabilization to PFP. PFP would also like to lower the temperature used during thermogravimetric analyses to avoid potential problems with volatilized chlorides damaging the equipment or overstating the moisture weight loss. The staff believes that the lack of characterization data for the oxides is one of the key issues that will need to be addressed for the third option. A distracted operator also moved a drum containing sources during a fissile movement outage. (III-A)

Spent Nuclear Fuel Project (SNFP): The SNFP replaced a Safety Significant spray shield on the Sludge Retrieval System with plastic sleeving in response to fabrication problems which resulted in an interference between the spray shield and piping. Despite the significant reduction in structural integrity from the aluminum sheet metal spray shield and the more complicated installation which is likely required for the plastic sleeving the project determined that the change could not increase the probability of a malfunction for this safety related equipment. In addition, the engineering analysis for the design change may not have contained sufficient information for the structural properties of the plastic to support an evaluation of the safety of the system for the expected operating conditions. (III-A)