**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

June 12, 2009

**TO**: T. J. Dwyer, Technical Director
**FROM:** W. Linzau and R. Quirk, Hanford Site Representatives
**SUBJECT:** Hanford Activity Report for the Week Ending June 12, 2009

Plutonium Finishing Plant (PFP): The contractor declared a PISA because the waste products from a decontamination solution, RadPro®, used to clean steel surfaces may represent an unanalyzed hazard. A report from PNNL recommends the cloth wastes generated during the use of RadPro® should be environmentally controlled to ensure the neutralized waste temperatures remain under 65° C to prevent exothermic reactions. The waste is self-heating and drums stored outside could exceed 65° C on a very hot day. If an exothermic reaction is initiated, then a loss of the drum lid and release of material could occur. The project already issued a Standing Operating Instruction that prevents storing the waste drums outside or shipping these drums until the issue is resolved. The project has also requested that PNNL perform a detailed heat transfer calculation to evaluate the possible maximum temperature. This issue was identified by the project due to questions asked by the Board's staff.

Waste Treatment Plant (WTP): A team of outside experts, sponsored by the Office of River Protection (ORP), started a review of how proposed design changes could affect plant operability. The proposed changes are due to reducing the material at risk (MAR) and revising the approach to control hydrogen hazards. During the outbrief, the team provided three initial recommendations. The first recommendation was that the project should develop a compliance strategy for the waste acceptance criteria that limits MAR in the feed. The second recommendation was that they should update the Operations Research Model. This model was used to address concerns from the External Flowsheet Review Team about plan availability. If the model was updated with the proposed reduced control sets and the nuclear safety requirements (such as Technical Safety Requirements, Limiting Conditions of Operation, and Surveillance Requirements that have not been written), it could provide quantifiable data on the benefit of reduced complexity in the design. The last recommendation was that the project should develop the sequence of operations of the plant systems. The team expressed that without more quantifiable information to evaluate, they could only provide a judgment of the benefit to operability from the proposed reduction of plant complexity.

K East Basin Decontamination and Demolition (D&D): The site rep met with the Radiological Controls Manager and Radiological Engineer to discuss changes to the radiological work permit (RWP). The project started breaking up and loading out the grout and debris from the lower portions of the basin, and they are exposing higher dose material. The RWP was revised to put an action level at 5 rad/hour for material being loaded into containers for shipment to ERDF. The action level requires segregation of this higher dose material and notification of supervisors. The work is being conducted remotely using heavy equipment and the work area is posted as a locked high radiation area (HRA). Real-time dose rates from probes mounted on the heavy equipment are being remotely monitored, and equipment operators have alarming dosimeters. In addition, multiple air monitors are placed around the HRA.

Tank Farms: The contractor added 15,000 gallons of caustic solution to tank AN-106 to restore chemistry to specification (see Activity Report 2/13/09). Samples to confirm chemistry is back in specification will be taken next week.