

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 22, 2008

**TO:** K. Fortenberry, Technical Director  
**FROM:** R. Quirk and W. Linzau, Hanford Site Representatives  
**SUBJECT:** Activity Report for the Week Ending February 22, 2008

Environmental Restoration Disposal Facility (ERDF): An unexpected energetic chemical reaction occurred in soil being treated to stabilize mercury contamination. The event occurred as a bulldozer was disturbing a bed of soil that had been treated with chemicals to stabilize the mercury. The operator heard a loud noise and noted a flame shoot out in front of the blade of the bulldozer. The flame immediately self-extinguished and the contractor and the Hanford Fire Department (HFD) determined the situation was stable. Subsequent air samples confirmed no airborne hazards existed. The site rep noted weaknesses in emergency response, including not notifying the HFD for 40 minutes and the Onsite Notification Center for another half hour as well as failure to follow approved emergency procedures. The contractor initiated an assessment of the event and will brief RL and the site rep on the outcome next week.

Waste Treatment Plant: The contractor's engineering organization is conducting a procurement assurance review as part of the corrective action from the black cell piping issues. The team is reviewing all equipment that will be delivered or installed within 90-days to determine if the procurements have characteristics that are known to be susceptible to having problems with quality. The characteristics were derived from NQA-1 guidance and lessons learned from previous quality problems seen on the project. Examples of these characteristics are: highly complex or unique design, special controls required during fabrication, substantive post-award changes, "beyond code" manufacturing inspections required, or commercial-grade dedication required. If a potential problem characteristic is identified in a procurement package, further evaluation is conducted to ensure the appropriate quality control is in place. The project is considering making this review a routine activity.

Solid Waste Operations Complex (SWOC): This week four drums slid off a metal pallet as they were being transported with a forklift. Last week a forklift knocked a drum over. There was another event the preceding week with a load falling off a forklift. The site rep requested a meeting with the contractor to discuss the actions that will be taken to prevent recurrence.

Safety Significant Fire Protection: The site rep met with RL and their contractor to discuss the safety-significant fire protection systems at the Plutonium Finishing Plant and several facilities in the SWOC. The site water system that supplies the fire protection systems at these facilities is robust with multiple sources of water and means to pump it, but is not functionally classified as safety-significant. A number of upgrades to the system have been implemented. Memorandums of agreement are in place to ensure the non-safety Water Utilities organization can adequately support the facilities with safety-significant fire protection systems.

K Basin Closure: The site rep attended the Safety-in-Design Integration Team meeting for the Sludge Treatment Project. A draft of the revised Safety Design Strategy that was distributed for review includes significant enhancements of the safety goals.