

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 22, 2005

TO: K. Fortenberry, Technical Director
FROM: D. Grover, W. Linzau, and R. Quirk, Hanford Site Representatives
SUBJ: Activity Report for the Week Ending July 22, 2005

Tank Farms: The Site Rep attended meetings on the new seismic calculations currently being developed for the double-shelled tanks (DST). The purpose of the meetings was to allow discussion between the independent peer reviewers required by Department of Energy Standard 1020 and subject matter experts from CH2M Hill and their subcontractors. The goal of the meetings was to have the reviewers evaluate the approach and technical bases of the analysis prior to its completion. The results of the calculations will support the plan to raise maximum allowable waste level in DSTs and a Tri-Party Agreement interim milestone in March 2006. The discussions focused on the new seismic spectra being used and techniques to model the response of the DST and the contained waste. The project has developed new response spectra to be consistent with the Waste Treatment Plant spectra. The analysis will include soil-structure interaction and fluid reactions such as those from sloshing. The calculations are scheduled for completion later this year.

Plutonium Finishing Plant (PFP): A DOE facility representative identified drums with questionable plutonium mass values labeling in the plutonium reclamation facility. This led to the identification of a criticality infraction when it was also learned that the criticality category labeling was improperly marked and there was inadequate spacing between the drums. The facility conducted a critique to identify the causes of these problems. The material was sprayed with fixative in a glove box prior to loading in the drums. The labeling of material for criticality has a conservative category for material from wet or dry processes that have not been counted by NDA and a less conservative one for uncounted glove box waste from a dry process or counted material from a wet process. The operator who mislabeled the drums thought that wet process only referred to historic plutonium processes and not wet fixative applying processes. The operator labeled it with what he thought was the closest description not a conservative one. He did not take the opportunity to call criticality safety representatives to get clarification. The plutonium mass value labeling was not done in accordance with the plant procedures and should not have been done until the material had NDA performed on it. The potential causes include multiple confusing procedures, reliance on only training to conduct work which could impact safety, and this type of work becoming less frequently performed by some work teams.

National Academy of Science: The Committee on Management of Certain Radioactive Waste Streams Stored in Tanks at Three Department of Energy (DOE) Sites was on-site this week. The Committee toured facilities related to the management of the tank farm wastes including the Cold Test Facility, bulk vitrification research and development facility, waste retrieval operations at S Farms, characterization laboratory, Waste Treatment Plant, and Integrated Disposal Facility. The site reps attended the presentations to the committee by DOE Office of River Protection, CH2MHill, retired technical experts, regulators, and Native American tribes.