

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 22, 2002

TO: K. Fortenberry, Technical Director
FROM: D. Grover and M. Sautman, Hanford Site Representatives
SUBJ: Activity Report for the Week Ending February 22, 2002

Plutonium Finishing Plant (PFP): PFP continues to propose repacking more categories of plutonium (Pu) into pipe overpack containers (POCs) at the same time the Department of Energy (DOE) has eliminated almost all funding for Hanford shipments to WIPP. This decision is in conflict with the Board's January 29, 1998 letter which discussed the acceptability of POCs when they could be "interred in WIPP in the relatively near future" and facilitated "expeditious burial." In addition, there is increasing momentum to deinventory PFP faster although approximately 90% of PFP's Pu does not have a disposition path. This makes shipments to other sites less likely and there is talk of continued storage at Hanford for decades. The net result of these proposals is that tons of plutonium may be moved from PFP to other Hanford facilities that were never designed for long-term storage of plutonium. The staff is concerned that these interrelated decisions are being made in isolation or based on white papers focused only on cost, schedule, and safeguards benefits. There is little evidence that DOE is taking a systematic look at the cumulative risk tradeoffs from these long-term storage decisions. Two examples of risk tradeoffs not being examined include:

- a) storage of rich, highly dispersible oxide in 3013 cans inside the PFP vaults with its safety features versus in a grout vault with no filtration that would be accessed every couple of years and
- b) storage of dispersible lean oxide in 3013 cans inside the PFP vault versus in POCs inside the Central Waste Complex (basically a Butler building) with no TSR engineered controls. (I-C, III-A)

Waste Treatment Plant: Staff observations of both facility and system design reviews have found many of them to be underutilized. Although the purpose is to solicit comments, the fact that most presentations do not discuss (unless prompted) technological challenges, potential operational difficulties, or safety issues likely reduces the quality and quantity of feedback on issues that probably need it the most. In addition, there are surprisingly few comments provided by Bechtel National personnel in attendance; most of the comments come from DOE and 1 or 2 of the independent reviewers present. (I-C, III-A)

Building 324: Mr. Grover observed the field performance of an emergency preparedness exercise at Building 324. The exercise scenario involved a drop of a steel waste disposal box causing a simulated release of 2,000 curies of strontium and cesium inside the building. This contaminated 3 workers, one of which was injured while evacuating and remained unconscious in a simulated high radiation area. The event scene controllers did not adequately limit unauthorized simulations of player actions, i.e., responders stating what would be done rather than demonstrating it. This resulted in most emergency responder and radiation control technician (RCT) actions not being fully demonstrated once the injured worker was found. These actions included medical treatment to assess the worker's condition and radiation surveys performed to release the worker and responders from the contaminated area. Other issues noted by Mr. Grover with radiation control at the event scene included poor identification of contamination spread by the two evacuating workers, no clear delineation of clean from hot areas in the decontamination area to minimize cross contamination, and insufficient RCT support (1 uncontaminated RCT) to manage the decontamination area. The last problem was not readily apparent to the facility organization due to the excessive simulations. (III-A)