

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 3, 2001

TO: K. Fortenberry, Technical Director
FROM: M. Sautman, Hanford Site Representatives
SUBJ: Activity Report for the Week Ending August 3, 2001

Plutonium Finishing Plant (PFP): Although the Department of Energy (DOE) authorized PFP to start packaging plutonium oxide with the bagless transfer system, DOE noted several problems with PFP's state of readiness and the conduct of the contractor Readiness Assessment (RA). A Facility Representative identified several issues that the RA team missed. DOE questioned Fluor Hanford's "narrow interpretation" of the RA scope since DOE found several cases of less than adequate implementation of Technical Safety Requirement controls and questioned the rigor of PFP's transient combustible controls. This is disappointing since the Board staff raised nearly identical concerns during a recent review. DOE also imposed 4 additional post-start actions on PFP including the performance of a Quality Assurance assessment to verify full implementation of the Justification for Continued Operations. DOE had the same concerns the Board staff had about storage of oxide in a vented can and required that PFP develop a technical basis to justify this storage inside a humid glovebox for an unlimited amount of time. PFP also revised their loss-on-ignition procedures to address several issues raised by the Site and Facility Representatives. The Site Rep completely agrees with DOE's assessment of the situation and was pleased that DOE line management made sure the above issues were addressed.

PFP has completed packaging all plutonium metal and metallic alloy items into both inner and outer 3013 cans. However, the Site Rep believes it is premature to declare victory since PFP decided to package all of these cans without fully understanding the cause or significance of pores found in the outer can welds. The thermal stabilization and packaging of the corrosion products and items that self-ignited still need to be completed to satisfy the milestones.

PFP estimates that they will not complete solution stabilization until September 2002—nearly 9 months late. Therefore, PFP is recommending that approximately 900 liters of solution containing about 3 kg of Pu be mixed with silica absorbent and disposed in drums at WIPP. These Critical Mass Lab, spill cleanup, and flush solutions contain between 0.3 and 8.9 g/l Pu. Absorption and centrifuge testing with HNO₃ have not found any indications so far that the solution will desorb over time. The Site Rep believes this may be a suitable disposal path for the flush and spill cleanup solutions. These low concentration waste solutions contain impurities that may cause problems during precipitation. While it appears that Critical Mass Lab solutions could be used for blending, PFP believes they can stabilize the solutions with absorbent considerably faster than they can precipitate them. By performing a 2 month campaign this Fall, PFP believes they can reduce the amount of time that the milestone is missed by 2 months. (III-A, I-C)

Tank Farms: DOE has recommended closure of the flammable gas safety issue and removal of 24 tanks from the watchlist. The staff is reviewing the technical basis for this. (III-A)

cc: Board Members