

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 27, 2001

TO: J. K. Fortenberry, Technical Director
FROM: D. F. Owen, RFETS Site Representative
SUBJECT: RFETS Activity Report for the Week Ending April 27, 2001

Plutonium Stabilization and Packaging System (PuSPS). Following resolution of pre-start findings from the Kaiser-Hill Operational Readiness Review (ORR) and issues raised by DOE-RFFO line management (see last week's report), Kaiser-Hill declared readiness for PuSPS operations late this week. DOE-RFFO line management noted its review of Kaiser-Hill readiness preparations and Field Office readiness, and recommended the start of the DOE ORR. The DOE-RFFO Deputy Manager, the PuSPS startup authority, authorized the DOE ORR to start on Monday, April 30th. The DOE ORR is expected to last about one week. The site rep. and staff will review readiness documentation and observe the DOE ORR during the week of April 30th.

As also reported last week, one of the Kaiser-Hill ORR pre-start findings involved failure to apply configuration management and work control processes prior to an engineer making an adjustment to a furnace controller to change the temperature for oxidizing (prior to full stabilization) small plutonium metal pieces from 500 °C to 600 °C. The site rep. and staff inquired about the technical basis for that change with DOE-RFFO personnel. The site rep. was informed that a DOE-RFFO plutonium expert had indicated his concerns with this proposed change as early as August 2000. DOE-RFFO concerns include the potential to melt the plutonium metal and exothermic reactions above 500 °C. DOE-RFFO then discussed the issue with Kaiser-Hill and it was concluded that the temperature setting should not be 600 °C but should be reset back to 500 °C. The PuSPS project will follow required processes to readjust the furnace controller. (3-A)

Plutonium Fluoride Residue Repackaging Under Recommendation 94-1. Following full approval of the blend material used to meet safeguards termination limits, blend-down and repackaging of plutonium fluoride residues containing greater than 10% plutonium was started late last week and is expected to take a few months to complete. (3-A)

Inner Tent Chamber Development. As noted on January 12, 2001, Kaiser-Hill had started size reduction operations on contaminated gloveboxes using hand-held plasma-arc cutting torches in the second-generation Inner Tent Chamber (ITC) in Building 771. Since that time, operating experience has shown an even better-than-expected reduction of airborne contamination levels near the workers as compared with the first-generation ITC in Building 771.

Development of third-generation ITCs for use in Building 771 and in Building 776/777 is proceeding. This week, the site rep. attended a demonstration of the third-generation ITC for Building 776/777 at a local vendor. These ITCs will have remotely operated mechanical arms for grasping and moving cut pieces to the wastebox in the ITC. Based on the success of the hand-held plasma-arc cutting torch, the Building 776/777 ITC will not employ remotely operated plasma-arc cutting torches as had been planned (the next Building 771 ITC will likely follow suit). Both third-generation ITCs are to be installed and started up by late summer 2001. (3-B)