DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 15, 2000

TO: J. K. Fortenberry, Technical Director
FROM: D. F. Owen, RFETS Site Representative
SUBJECT: RFETS Activity Report for the Week Ending December 15, 2000

Building 771 Uptakes Follow-up. As reported during the last two weeks, initial bio-assay results indicated that uptakes were received by 10 of 11 individuals associated with mechanical disassembly and size reduction operations on contaminated components in a containment tent in Room 186. A probable cause of the uptakes has not been determined. As a result, deactivation and decontamination (D&D) activities have gone forward this week with a number of special controls formally defined by Kaiser-Hill in a letter to DOE-RFFO dated December 12, 2000. Chief among these controls are required respiratory protection, additional radiological monitoring, and review of radiological work practices during D&D activities.

Kaiser-Hill has chartered a team to investigate and identify the source of the uptakes and perform an analysis of root cause. Additionally, a Price-Anderson root cause analysis of the factors surrounding this event (including failures to document air sampling data and identify out-of-calibration air sampling equipment) is being performed by Kaiser-Hill. Both reviews started this week and are expected to continue through January 2001. (3-B)

Plutonium Stabilization and Packaging System (PuSPS). The PuSPS project continued to experience problems with packaging system equipment that automatically tips the oxide furnace trays and dispenses oxide into convenience cans, in particular the elevator in the Tip/Dispense/Fill Glovebox. Kaiser-Hill management has concluded that the reliability of this equipment is highly suspect and has decided to not use this portion of the packaging system. Instead, stabilized oxide will be manually scooped from the furnace tray to the oxide convenience can. This task will occur in the Material Preparation Glovebox in an area next to the Loss-on-Ignition Furnace. The screw-top oxide convenience can will then be wiped-down, manually transferred to the Tip/Dispense/Fill Glovebox and positioned for automatic insertion into the Can Weigh/Cap Insertion Glovebox to continue DOE STD-3013 packaging. A preliminary estimate of added radiation exposure indicates that impact to PuSPS project person-rem will be less than 2 percent.

PuSPS project personnel proceeded with design of needed modifications to the packaging system. While the modifications are expected to take about 4 weeks, other PuSPS readiness activities will continue and overall impact to the current mid-March 2001 startup date is projected to be minimal. A revised PuSPS startup schedule is being determined. (3-A)

Residue Repackaging. Building 371 has recently started blend-down and repackaging of sand, slag and crucible residues containing greater than 10% plutonium, and repackaging of plutonium fluoride residues containing less than 10% plutonium. Blend-down and repackaging of fluoride residues containing greater than 10% plutonium is expected to start by February 2001, following resolution of blending and NEPA coverage issues. Due to close similarities with recent and current residue operations in Building 371, no independent readiness review is planned. (3-A)