

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 4, 2000

TO: J. K. Fortenberry, Technical Director
FROM: D. F. Owen, D. J. Grover, RFETS Site Representatives
SUBJECT: RFETS Activity Report for the Week Ending August 4, 2000

Plutonium Stabilization and Packaging System (PuSPS). A Kaiser-Hill management review of the activity-level hazard analysis for PuSPS operations determined that the analysis did not meet the requirements of the RFETS Integrated Work Control Program. As a result, it is currently being revised to meet these requirements. The PuSPS project continues to experience delays following work control violations (see our report of July 14, 2000); the current PuSPS startup date is late November 2000 (beyond the DOE 94-1 commitment of October 2000). (3-A)

Plutonium Metal Size Reduction. Building 707 has completed the formal dry run of the revised size reduction procedure as well as other corrective actions identified in response to the procedural violations (see last week's site rep. report). Building 707 management has authorized the restart of plutonium metal size reduction. (3-A)

Building 906 Startup. Building 906, currently a low level waste storage facility, has been undergoing upgrades to support a revised mission for storage of transuranic waste (see site rep. report of March 17, 2000). The primary upgrade is the addition of a HEPA filtered ventilation system. As the revised mission will make Building 906 a hazard category 2 nuclear facility, Kaiser-Hill and DOE Operational Readiness Reviews (ORRs) will be performed to confirm readiness. The Kaiser-Hill ORR is planned to start the week of August 7, 2000. (3-A)

Inner Tent Chamber Development. Development efforts continue for next generation Inner Tent Chambers (ITCs) that apply improved engineered safety controls for size reduction of gloveboxes and related equipment. ITC Phase I, Series 2 is a modified version of the initial ITC design that replaces sliding doors with glove ports, has an integral waste box, and will be able to accommodate manual plasma-arc cutting. Installation in Building 771 is nearing completion with testing, training and a readiness review planned to be complete by mid-September 2000. For ITC Phase II, incorporating remote manipulator arms to perform plasma-arc cutting, vendor demonstrations and training of RFETS workers on the system have been delayed due to manipulator arm drive motor problems until late August, 2000. The Phase II ITCs will then be assembled into Building 771 and Building 776/777 with startups planned for the late 2000/early 2001 time-frame. (3-B)

Plutonium Metal Criticality Analysis. The Building 707 and Building 371 Basis for Interim Operation documents postulate a bare plutonium metal criticality event that consists of a single, brief pulse with an assumed yield of 10^{17} fissions. Kaiser-Hill has concluded that there is no basis to assume an assured immediate shutdown mechanism for a dry metal configuration. As a result, a multi-pulse dry metal criticality with a yield much greater than 10^{17} fissions needs to be addressed. Kaiser-Hill formally notified DOE-RFFO of this discovered condition and will address this issue through the Unreviewed Safety Question Determination process. (3-A)