

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 13, 2002

TO: J. K. Fortenberry, Technical Director
FROM: D. F. Owen, RFETS Site Representative
SUBJECT: RFETS Activity Report for the Week Ending December 13, 2002

Staff member H. W. Massie was at RFETS this week reviewing plutonium processing operations.

Plutonium Stabilization and Packaging System (PuSPS). RFETS has completed approximately 1200 DOE-STD-3013 containers (not counting those in a reject/rework status). PuSPS operations have slowed considerably during the past month (only about 30 containers processed) due to authorization basis compliance issues reported by RFETS and emergent laser welding equipment problems.

The authorization basis compliance issues deal with floor management and storage of “vulnerable” DOE-STD-3013 containers. Vulnerable containers include those with failed inner and/or outer can welds or oxide moisture measurement results not meeting acceptance criteria. The Building 371 Basis for Interim Operation (BIO) contains administrative controls on numbers of such containers permitted outside vaults with associated time limits. As RFETS reported, there were deficiencies with implementation of these administrative controls, including the content of procedures and training. This week, RFETS also reported that vulnerable containers were not being stored in vaults in 10-gallon drums as assumed by the safety analysis for a container rupture scenario; the containers were on 2-position carts which do not have secured lids. This assumption was not translated into an administrative control requirement in the BIO. DOE-RFFO approved a BIO change to clearly require use of 10-gallon drums for vault storage of vulnerable containers.

The first thermal pretreatment operations of oxides suspected of containing organic material were conducted this week with no operational issues or anomalous conditions noted (see site rep. reports of November 22nd and November 1st).

In a letter dated December 9th, the DOE Office of Environmental Management (EM) provided approval to DOE-RFFO to stabilize certain oxides containing chloride contaminants at 750 °C in lieu of 950 °C per DOE-STD-3013. The EM letter states, however, that such chloride-bearing materials with less than 50% plutonium shall be stabilized at 950 °C. Programming of one of the five PuSPS furnaces and procedural changes for 750 °C stabilization runs are in progress. (3-A)

Building 776/777 Authorization Basis - Proposed Deletion of Criticality Controls. Kaiser-Hill has recently proposed that the Building 776/777 BIO be revised to delete criticality accidents from the safety analysis and criticality controls from the BIO Technical Safety Requirements (TSR), including criticality accident alarms and associated TSR surveillances and limiting condition for operation. This proposal is based on the removal of fissile material from Building 776/777 (only holdup in certain equipment and ventilation systems remain) and a Criticality Safety Evaluation that concludes that a criticality accident is no longer credible (subject to checks now in progress on buried equipment). The proposal is being provided to the staff. (1-C)