

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 20, 2001

TO: J. K. Fortenberry, Technical Director
FROM: D. F. Owen, RFETS Site Representative
SUBJECT: RFETS Activity Report for the Week Ending July 20, 2001

Plutonium Stabilization and Packaging System (PuSPS). Since startup on June 14th, the PuSPS project has completed approximately 24 DOE-STD-3013 containers. Plutonium metal has been packaged into most of these containers as plutonium oxide processing has not yet resumed since last week's stoppage due to installation and testing problems with a replacement weighing scale for the Loss-on-Ignition test. A third failed visual inspection of an outer can weld (splatter and voiding) occurred this week, but this container will be further evaluated for acceptance. Kaiser-Hill has run additional test cans where the outer can welds have been sectioned to assess weld quality; results are pending.

Use of a senior supervisory watch is in place during this initial startup period and will continue at least one week after full simultaneous operations (processing metal and oxide at one time) are achieved per the PuSPS Startup Plan criteria. Kaiser-Hill management noted to the site rep. that the senior supervisory watch has reported overall satisfactory conduct of operations to date with only limited interjections on procedure issues and radiological good practices. Preparations and reviews for adding a second PuSPS operations shift continue and are now expected to be completed during the week of July 23rd. (3-A)

Unreviewed Safety Question (USQ) Process Implementation. In early July, Building 371 nuclear safety personnel were reviewing a criticality safety evaluation related to movement of plutonium oxides from vaults to PuSPS. These personnel noted that the oxide quantities being considered could be more than originally envisioned for PuSPS and more than assumed for Building 371 in the Building 371 Basis for Interim Operation (BIO) accident analysis; specifically, 70 kg for oxide outside vaults (but not in the PuSPS) for a seismic event. The BIO, however, states only that oxide material for PuSPS will be moved on multi-position carts, with no specific control(s) to ensure that 70 kg outside vaults is not exceeded. As a result, the nuclear safety personnel asked that the cart type (8-position, 3 kg per position) and number of carts (2) used to move oxides to PuSPS be specified in the "proposed activity" for such PuSPS oxide movement. This redefined "activity" would effectively limit PuSPS oxide movements to 48 kg. The Kaiser-Hill nuclear safety screen for this activity against the BIO was then declared negative, however, and no further evaluation per the USQ process deemed necessary.

The site rep. and staff questioned this approach and how such a screen could be negative with DOE-RFFO and Kaiser-Hill personnel. In particular, the site rep. believes that the Kaiser-Hill nuclear safety screen question addressing whether the "proposed activity" is described in the BIO should have resulted in a positive screen and further evaluation per the USQ process. DOE-RFFO and Kaiser-Hill personnel noted that a BIO change will be proposed in the next few weeks to address the planned operations associated with adding a second shift for PuSPS and likely include BIO-level controls related to oxide movement in Building 371. The site rep. will follow resolution of this issue. (1-C)