

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 22, 2000

**TO:** J. K. Fortenberry, Technical Director  
**FROM:** D. F. Owen, RFETS Site Representative  
**SUBJECT:** RFETS Activity Report for the Week Ending December 22, 2000

**Criticality Safety/Conduct of Operations.** On Thursday, during loading of unmoderated plutonium and enriched uranium metal items into 10-gallon drums for removal from Building 707 to Building 371, personnel violated a criticality mass control. The 10-gallon drum criticality requirements posting states that these drums may be loaded with two 2-liter inner cans each containing up to 2500 grams of unmoderated plutonium (considered bounding for uranium). There were five enriched uranium metal items, each about 2900 grams and packed in five 2-liter cans, that were loaded into three 10-gallon drums (2 cans each in 2 drums and 1 can in a 3<sup>rd</sup> drum).

At a follow-up fact finding meeting, the foreman directing the loading of the drums indicated that he was not aware that these cans contained more than 2500 grams and did not check these cans against the posted mass limit. The workers loading the drums (not present at the meeting) also apparently did not check these cans against the posted mass limit. The drum loading procedure was not reviewed in detail during this meeting to identify what should have been done. Building 707 management, however, concluded that the procedure should be reviewed to potentially incorporate an independent criticality safety verification for loading of 10-gallon drums. The site rep. will closely follow corrective actions from this occurrence. (1-C)

**Building 771 Uptakes Follow-up.** The site rep. and staff held technical discussions with RFETS personnel on progress and related actions in addressing the recent uptakes by 10 individuals associated with room 186 component size reduction operations. Approximately 40 individuals from other work groups throughout the facility are submitting special bioassay samples to help determine the extent of the problem. The Building 771 radiological control program supervisory staff is being augmented with 3 additional supervisors to improve floor-level operations.

The Kaiser-Hill investigation to identify the source of the recent uptakes proceeded this week. The investigation team's efforts this week were focused on matching radiological area entry records with other operational logs and occurrence records as part of establishing a detailed activity analysis for the 10 individuals since January 2000. (3-B)

**Plutonium Stabilization and Packaging System (PuSPS).** As reported last week, Kaiser-Hill decided to not use the portion of the packaging system that performs automatic oxide tray tip, dispense and convenience can fill functions and instead will manually fill the oxide convenience cans. Design of needed PuSPS modifications is expected to be completed during the week of December 25, and the modifications implemented by mid-January. Additionally, due to recent failures of latching mechanisms on 2 of 5 stabilization furnace doors, all of the mechanisms will be replaced with a modified design in early January. The revised PuSPS startup schedule, factoring in these modifications, still projects PuSPS startup in mid-March 2001. (3-A)