

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 29, 2000

**TO:** J. K. Fortenberry, Technical Director  
**FROM:** D. F. Owen, RFETS Site Representative  
**SUBJECT:** RFETS Activity Report for the Week Ending December 29, 2000

**Criticality Safety/Conduct of Operations.** As reported last week, during loading of unmoderated plutonium and enriched uranium metal items into 10-gallon drums for removal from Building 707 to Building 371, personnel in Building 707 violated a criticality mass control. The personnel loaded containers, each with about 2900 grams, into 10-gallon drums in violation of the applicable 2500 gram posted mass limit. This violation was discovered by Building 371 personnel as part of reviewing material transfer records prior to movement from Building 707.

Kaiser-Hill was asked to brief DOE-RFFO on corrective actions prior to resuming loading of 10-gallon drums with material for movement from Building 707. It became apparent during this discussion of corrective actions that details of what should have been done versus what actually happened had not been properly determined by Kaiser-Hill during the "fact-finding" process last week. DOE-RFFO then asked that Kaiser-Hill reconvene the fact-finding meeting with all involved personnel. Kaiser-Hill implemented a halt to all 10-gallon drum loading operations.

At the reconvened fact-finding meeting on Friday, it was determined that there was a failure of operations personnel to follow their basic criticality safety training and ensure that they were in compliance with the applicable posted limit(s) during actual loading of the drums. Among factors cited as contributing to this occurrence were: schedule pressure; numbers of drums being packed at a time; radiation exposure concerns; and a can mass limit that changes from 3000 grams for storage & handling to 2500 grams when loading two cans in a drum. While the procedure for loading drums required various checks for contamination, drums defects, shielding, can identification numbers, etc., there was no check incorporated to verify compliance with the applicable posted criticality limits/requirements just prior to loading cans into the drum.

Several corrective actions were identified by Kaiser-Hill and are to be issued for implementation. Chief among these are an analysis of causal factors, a procedure revision to include a verification of compliance with the applicable posted mass limit just prior to loading cans into the drum, and a number of training-related items.

Finally, following the meeting, the site rep. inquired with RFETS management as to why governing activity-level hazard analysis (i.e., job hazard analysis) was not addressed. Kaiser-Hill management responded that this procedure was last formally revised in June of 1998, prior to full implementation of integrated safety management (ISM) at RFETS. Therefore, the procedure was based on various separate safety evaluations (e.g., radiological, industrial, and criticality safety evaluations). With the planned procedure revision, Kaiser-Hill management stated that integrated activity-level hazard analysis will be performed by line management to current RFETS ISM requirements. The site-rep. will continue follow-up on these issues. (1-C)