

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 29, 1997

**TO:** G. W. Cunningham, Technical Director

**FROM:** R. F. Warther, M. T. Sautman

**SUBJ:** RFETS Activity Report for Week Ending August 29, 1997

**Construction Work by Subcontractors.** The attachment summarizes some events over the past month involving subcontractor performance of work in plutonium buildings operated by SSOC. These recent events raise questions about conduct of operations, radiological practices, and work planning. Most of these incidents have occurred in B707, which used to have the highest standard for operations. The Site Reps, other Board staff, and OEs also have observed inadequate pre-evolution briefs, poor supervision, and poor housekeeping associated with these jobs.

K-H and SSOC have taken action to correct this situation. K-H is in the process of writing a cure letter to the affected third tier contractors. All construction work in B707 has been shutdown and will be resumed under a multi-phase plan. The rigor of pre-evolution briefs will be increased by requiring detailed discussions of work tasks, job hazards, and RWP requirements. Workers will be required to respond to questions. Safety professionals and radiological engineers will and monitor activities. These latter individuals also will participate in pre-work walkdowns to ensure that the workers understand the activities and associated hazards. K-H also intends to increase the supervisor:worker ratio from 1:35 to 1:15 and reduce the time they spend in status meetings.

**Plutonium Metal and Oxide.** Radiography of the outer 3013 cans has shown that the cans do not satisfy ASME 8 requirements because of excessive porosity in the welds. This issue is more important for future storage of RFETS Pu at SRS, where the outer can is being designated safety class, rather than for storage at RFETS, where it is not.

**Facility Deactivation.** Several personnel (about 12-15 total) previously working on B886 deactivation have been transferred to B779 to assist that deactivation. Both buildings were toured by the site reps this week. Less than 1 kg of holdup remains in B886. However, based on system configuration and lower levels of instrument detectability, the  $+2\sigma$  value for the instrument is about equal to the measured value. Therefore, the upper bound of holdup that could be in the building is about twice what is measured. As a result, some controls remain in place that probably are no longer required, including criticality system controls. An unnecessarily large amount of combustible material also remains in the building. This is of some concern because B886 has no fire suppression system. At this point, operations are suspended because of an OSR violation and lack of resources. Work in B886 is scheduled to resume at the beginning of the fiscal year.

K-H has made some progress toward deactivating B779 over the past couple of months. Most of the effort to date consists of removing trash, old equipment, and RCRA hazardous material. Some glovebox cleanup has occurred. Capital equipment has not been removed. K-H is surveying the complex to determine if some of the capital equipment from this building can be used elsewhere. The more difficult phases of deactivation, including significant nuclear work, has not yet been initiated.

cc: Board Members

**Attachment: Summary of Selected Recent Events Involving Subcontractor  
Personnel Working in SSOC Buildings**

- 7/24/97 A J. A. Jones employee removed the B374 representative air sampler from service. This work was unauthorized, violated the work control document, and was not reported to building management for five days. At K-H's direction, the air sampler was later reinstalled without proper work control documentation or facility management authorization.
- 7/25/97 An employee installing seismic supports in the B371 attic accidentally drilled through the floor and into a contamination area on the floor below.
- 8/3/97 A J. A. Jones employee ground through a glovebox glove in B707 A Module.
- 8/13/97 B707 Shift Manager temporarily shuts down all construction work by RFEC, J. A. Jones, and RMRS because personnel from these subcontractors are repeatedly observed to be improperly performing self-monitoring and doffing anti-contamination clothing at the step-off pad.
- 8/13/97 Two J. A. Jones personnel are observed sleeping in B707 A Module, including one individual who is supposed to be escorting two uncleared personnel.
- 8/15/97 In B707 J Module, a J. A. Jones employee removing process cooling lines above a glovebox, dropped a pipe on J60's window and cracks it. No contamination is found though.
- 8/19/97 J. A. Jones employees, who are drilling holes into the B707 roof, drill four holes through the roof and into the second floor radiological buffer area.
- 8/26/97 B707 A Module work is suspended and the module evacuated when J. A. Jones employees are found grinding into lead shielding. The workers were not wearing respiratory protection and have to get their blood tested.
- August Besides the above instances, four J. A. Jones workers are injured performing work in B707. Injuries include a head laceration, a cut knee and finger, and a compound fracture of a hand.
- 8/27/97 Three RFEC employees enter B707 Module E, which was posted as an airborne contamination area, without respiratory protection. K-H Radiological Engineering issues stop work order for B707 due to the number of radiological deficiencies incurred by construction employees.