

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 10, 1998

TO: G. W. Cunningham, Technical Director

FROM: M. T. Sautman

SUBJECT: RFETS Activity Report for Weeks Ending November 6 and 13, 1998

This report covers two weeks since I was on sick leave last Friday and will be attending an off-site training course November 11 - 14.

Sand, Slag, and Crucible (SS&C) Shipments. DOE decided not to issue the Record of Decision for shipping RFETS residues to SRS as planned today when it was identified that the actual number of shipments might be much larger than that stated in the draft ROD. The ROD is being revised to include a better estimate of the number of shipments and will hopefully be issued later this week.

Solutions. Tapping and draining of the first B771 actinide system (high level dissolution) has been completed. Although less than 3 liters of solution were drained, the solution contained approximately 140 g Pu/liter. The Site Rep has been reviewing the work package for removing this system's piping and observed a mockup of some pipe cutting techniques. The pipes will likely be cut with either a 4-wheel pipe cutter or sawzall, using either normal sleeving or a T-sleeve to contain contamination. (A T-sleeve is sleeving that has a several inch long leg in the middle to accommodate tools). The use of mockups and having B779 personnel demonstrate their techniques has been beneficial for B771 pipefitters. Glovebags and ventilated hoods are also being examined for some applications. Once several-foot-long pieces of pipe are cut, they might be bagged into a glovebox and cut into shorter pieces using a port-a-band saw. However, some of the B779 Radiological Operations personnel, recently transferred to B771, would rather cut the pipes up in a size reduction tent.

Tapping and draining of the third area in B371 has been completed. Approximately 200 liters of non-fissile water and KOH solutions were drained. SSOC has had mixed success addressing some of the issues discussed in the September 11 report. Several process specialists have been hired and are in training, but the second crew will not be ready until 1999. "Hard vacuum" purge times have not been an issue since recently purged lines and upcoming ones have purge paths. Operator doses may start to impact work since one worker is at 90% of the administrative control limit and two others have reached the 60% trigger point. Doses may be reduced by using the LANL temporary shielding that has just arrived. Room decontamination may be delayed for several weeks because of a recent problem with the supplied air system.

B779 Deactivation. In response to several recent incidents, the technical staff and Site Rep held a videoconference with RFETS to discuss how deactivation hazards and controls are being identified. One example discussed was the hazards analysis for plutonium hydride fires since neither the impact to airborne radioactivity nor the possibility of melting a Premaire suit had been analyzed. K-H has formed a multi-disciplinary team to redesign the size reduction tents to incorporate lessons learned.

Some of the improvements being considered include hard sided containment (i.e., permacon) and increased ventilation. While they are looking at various remote methods, several managers are resistant to this idea.

During prior walkdowns of size reduction tents, the Site Rep questioned whether the locations of air sample heads in the tents represented the workers' breathing zone. The air sample heads were on the back side of the tent while workers were often several feet away and on the other side of the glovebox being size reduced. The air sample heads are measured every 15 minutes to ensure the airborne radioactivity in the tent does not exceed the RWP suspension limits. (The workers' dose is based on the lapel air samplers inside the Premaire suit). Roger Zavadoski had the same concern when he examined the tents during his recent visit. During a discussion last week with the K-H RadCon Manager, it was discovered that the RadCon Manager's understanding of the air sample heads' locations he approved differed from their actual locations. He then promptly directed that the air sample heads in all size reduction tents were to be moved to locations more representative of the worker's breathing zone. Since the sampling location change was approved on 9/30/98, it calls into question the representativeness of the sample results during the last several weeks. This was a period when many of the most hazardous gloveboxes in B779, including the hydride ones, were size reduced.

B779 Management Review (MR). Tony Buhl led a MR for the removal of the Zone 1 and II ventilation systems from B779 Annex B and B729. The conduct of the MR and the technical background of the team were good. Much of the work will be performed by Foster Wheeler using building tradesmen, but B779 D&D workers (steelworkers' union) will handle the removal and size reduction of any highly contaminated equipment. There were 9 pre- and 3 post-start findings. The findings fell into three general categories:

- The training program is not up to standards previously set by the project.
 - Project controls are not sufficient to ensure worker safety during a loss of power event.
 - Project scope, level of definition, work controls, and sequence of work are not well defined.
- Additional management reviews will be held for removing the rest of the ventilation in B779 and the demolition of B779.

Interactions with the Public. The Site Rep gave a presentation to the RFETS Citizens Advisory Board (CAB) about recent Board activities at RFETS and across the complex. The Site Rep answered several questions about HEPA filter degradation, last month's hydride fire, storage of plutonium in contact with plastic, and the large number of criticality infractions in August and September. Several members of the CAB also expressed concern with the decision not to replace Bob Warther. The Site Rep also received a phone call from Westminster's RFETS representative. The Site Rep answered her questions regarding the fire department and TRU drum venting.
cc: Board members