

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 6, 1998

TO: G. W. Cunningham, Technical Director
FROM: R. F. Warther, M.T. Sautman
SUBJ: RFETS Activity Report for Week Ending March 6, 1998

Metal and Oxide Shipments to SRS. Based on discussions with the SRS site reps, WSRC is accelerating its efforts to store Pu metal and oxide at that site. Details are included in the SR Site Rep weekly report. However, WSRC personnel believe that RFETS may not be ready to ship for a year or more. The site reps discussed this briefly with the K-H President and RFFO Deputy Manager. Both emphatically stated that they would allocate funds and transportation resources for metal and oxide shipments to SRS if this option became available. They both stated independently that they would make funds and resources available even under current budget scenarios, (although this might delay start of other risk reduction activities). The RFETS Site Reps are in favor of this option also because B707 has a return period for the collapse earthquake that is less than 500 years. Metal and oxide shipments to SRS would accelerate risk reduction at the site in addition to accelerating site closure.

Tap and Drain. SSOC developed the following approaches for purging hydrogen from process lines. When both vent points are inside a glovebox, the glovebox vacuum is the preferred method. If they do not get any flow, a pneumatically driven ejector pump will be used in a glovebox. If both vent points are not in a glovebox, the portable vacuum liquid transfer system (PVLTS) will be used. Possible modifications to the PVLTS include a nitrogen purge siphon upstream of its pencil tanks and hydrogen detection upstream and at discharge. For all three methods, all tubing will be metal or conductive tygon. Taps would only be used if no valves were available to hook up the PVLTS. The cutting/drilling tool will be fully ground and non-sparking. Peristaltic pumps were rejected because they are not designed for gases and have a weak vacuum. Other pump designs were rejected because the electric motors were not explosion-proof in a hydrogen atmosphere..

B779 Management Review (MR). The scope of the K-H B779 MR that began this week includes the programmatic aspects of decommissioning and removal of the first 30 gloveboxes. Originally these two topics were going to be covered by two separate MRs. The interviews observed by the Site Reps this week focused on the programmatic issues. The MR Team intends to evaluate glovebox removal activities next when they conduct drills and dry runs. Preliminary concerns identified so far include weak knowledge of the authorization basis and integrated safety management, qualifications of the configuration control authorities (CCA), control of Be hazards, and a recent series of minor industrial accidents. Strengths include the high degree of worker involvement in work planning and presence of line management on the floor. The MR Team intends to evaluate Be hazards in more detail next week during the drills and dry runs. They also intend to repeat some interviews that were not satisfactory this past week.

Residues. Three drums with plugged filters were found during drum filter vent testing. Two of the drums involved carbon tetrachloride-contaminated wet combustibles or Ful-Flo filters while the other was nitric acid-contaminated Ful-Flo filters. In all three cases, some unidentified material, possibly corrosion products, filled up the breathing space of the stainless steel filter. Most of the plugged filters to date have involved carbon tetrachloride contaminated material, especially Ful-Flo filters which often contain free liquids.

Emergency Drill. K-H and RFFO conducted another emergency drill on Thursday. The performance in the EOC was substantially improved over the previous drill (weekly report 1/30/98). However, some issues at the scene were noted. Detailed comments regarding the drill are included as Attachment 1.

Attachment 1
Comments on Emergency Drill of March 5

- RCTs did not begin taking swipes for over one hour because they were required to wait for Industrial Hygiene (IH). The RCTs swiping the scene often put their rags on the wet ground and then put the wet rag directly on the meter screen, which would result in shielding. The Hazards Assessment Center Manager realized that the readings were too low based on the postulated release quantity, but was not aware the RCTs were taking wet swipes. The swipe methodology was confirmed about two hours into the drill. Had the HAC Manager not questioned his readings, this deficiency probably would have gone unnoticed. Additional training will be required on this topic. This was a deficiency noted on the in the January drill.
- IH showed up 45 minutes into the drill. The next ½ hour was spent debating whether IH would take measurements or whether the fire department (already contaminated) would take measurements. The FD eventually took the measurements. .
- One of the IH individuals had to ask another IH individual how to operate the instrument. This is a recurring deficiency, in part because of excessive simulation of instrument operation on site.
- Once the RCT counted and evaluated swipe data, she tried for over 10 minutes to explain the data to the radiation lead at Incident Command who then briefed the Shift Superintendent. The radiation lead made numerous trips back and forth since he did not really understand where the measurements were made.
- Some hardware problems were noted. The TV Projection system for updated information failed. The EOC responded with manual updates, then jerry-rigged the TV system to make it work. This actually worked out fairly well. However, the long-term reliability of the EOC communication systems appear to be less than 100%. At the scene, one of the two Shift Superintendent equipment boxes/trucks did not have a fax machine or batteries. No one considered using the alternative box nearby in B850.
- Procedures at the step-off pad were not adequate. RCTs engaged in frisks that do not meet Rad Con manual requirements. It appeared that there was the chance for cross contamination because some people were crossing back and forth across the contaminated boundaries.