

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 13, 1997

TO: G. W. Cunningham, Technical Director
FROM: R.F. Warther, M.T. Sautman
SUBJECT: RFETS Activity Report for Week Ending June 13, 1997

Recommendation 94-1. There are two potential issues regarding the RFETS Plutonium Stabilization and Packaging System (SPS) prototype. First, there is a possibility that the steady-state temperature of plutonium metal stored inside the RFETS three-can configuration may exceed 100-C if nitrogen is used as the convenience can fill gas. The 3013 standard has a 100-C temperature limit to prevent metal phase changes during storage. At this time, RFFO says that it is too late to replace nitrogen gas with helium, which has better heat transfer capabilities. Another issue is that the SPS was designed to handle relatively pure plutonium, although some oxides contain chlorides and other impurities that may evaporate during thermal stabilization. These offgases could condense elsewhere in SPS, possibly causing corrosion or other problems. For instance, an off-gas system filter was clogged at LANL while analyzing chloride-rich oxide. LANL is currently characterizing and testing RFETS material, which will better quantify the significance of both these issues. RFFO has some preliminary solutions to these issues.

The RFFO Deputy Manager has directed K-H to evaluate costs and barriers to implementing the technical staff's alternative residue strategy, which was briefed to the Board in May.

A criticality line tank in B371 was drained. K-H plans to delay draining the last tank in B371 until this fall so it can be used to blend down high-level plutonium solution from B771.

EH Review. The Site Reps attended the EH outbrief following its review this week. The review is a follow-on to the review conducted several years ago. In summary, RFETS has shown significant improvement in its operations. On the positive side, the EH assessment personnel found no major issues, concluded that the vital safety system backlog is manageable and some of the buildings have solid maintenance systems. Some findings include the following:

- The division of oversight responsibilities between RFFO and K-H is not clear.
- Compensatory measures for some deficient systems are not adequate.
- Plans for tap and drain versus flushing liquid systems are not complete.
- Interfaces between the contractor and the subcontractors at the working level are not clear.

A draft report will be issued in about two weeks.

Price-Anderson Amendments Act. Preliminary Notices of Violation were issued to both K-H and RMRS regarding radiological control deficiencies during the Trench T-3/4 depleted uranium release last fall. DOE determined that K-H's corrective actions regarding moving criticality infracted drums were satisfactory and that no further enforcement action was needed.

cc: Board Members