

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 14, 1997

TO: G. W. Cunningham, Technical Director
FROM: R. F. Warther, M. T. Sautman
SUBJ: RFETS Activity Report for Week Ending November 14, 1997

Uptake from B774. Last week the Site Reps reported on this incident which occurred in 1996. Additional concerns were identified this week. The approximately 1g release quantity reported last week was erroneous. The 1g quantity was based on a liquids analysis. About 300g of Pu were held up in the sludge of the tanks. The sludge was sampled but not included in the hazards analysis. Additionally, the sludge contained gram quantities of Am-241. The Am-241 should have been detectable with a β - γ survey meter. The failure to consider Pu content in the sludge is a significant finding and is the focus of the investigation by K-H. Essentially all the Pu would be held up in the sludge because of the specific gravity of Pu and its solubility. The site reps are investigating if additional training following this and the T-3/T-4 incident is adequate to prevent this type occurrence in the future. Additionally, Hank Stovall, Council Member for Broomfield called inquiring about this and other incidents at the site and asked to speak with Mr. Conway. This was discussed with the Technical Director and will be resolved on 11/20.

Accelerated Shipments Off-Site. Personnel from DOE-HQ (Tseng), LANL, SRS, Hanford and Albuquerque were on site to discuss material shipments from RFETS to other sites to accelerate RFETS site closure. Two themes were evident. First, DOE-SR appears to be backing away from plans to accept metal and oxide. The leading candidate for off-site receipt of RFETS metal and oxide may be Hanford. However, Hanford personnel would have to modify their storage configuration, resolve NEPA issues and potentially package the material into 3013 cans. Second, treatment and shipment plans for residues were not finalized. NEPA and STL issues affect virtually every option, and multiple NEPA actions may be required for some alternatives. With increased alternatives, the number of critical path issues to be addressed also increases. The Site Reps attempted to get the group to provide a specific name for each critical path issue, but were unsuccessful. John Tseng was the only name provided to resolve DOE-HQ issues. The Site Reps believe it is impossible for a single individual to resolve the number of issues highlighted at the meeting, and believe that the issues can not be resolved within a single (i.e., EM) office.

The details of the options discussed for metal and oxide, eU and residues will be briefed to the Board next week. The Site Reps have two concerns. First, material will not meet the 3013 standard by the 2002 milestone. Second, the alternatives are diverging, not converging as would be expected at this point in the implementation of Recommendation 94-1.

Residues. After performing practice drills all week, B707 management plans to redo the emergency drill for the K-H Salt Stabilization Readiness Assessment team next week.

Last week, NN-51 rejected RFFO's proposed STL variances for MSE and ER salts; incinerator ash; graphite fines; and sand, slag, and crucible. RFFO and K-H are still pursuing various options to provide justification for variances or raising the limits. If RFETS is not successful, these residues will require several years of processing to separate the plutonium or immobilize it. At this time, there are still several demonstration and testing problems that must be resolved for vitrification and salt distillation.

The residue pipe overpack container underwent several hydrogen gas explosion tests (up to 67% H₂/33%O₂) at Sandia. There were no breaches in any of the tests and subsequent testing of the ten filters showed that they still met WIPP specifications after the explosions.

cc: Board Members