

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 17, 2000

TO: J. K. Fortenberry, Technical Director
FROM: D. F. Owen, RFETS Site Representative
SUBJECT: RFETS Activity Report for the Week Ending November 17, 2000

The site rep. was out of the office Tuesday through Thursday to observe a vendor demonstration in Minnesota of a robotics system to perform equipment size reduction.

Plutonium Stabilization and Packaging System (PuSPS). As reported last week, Kaiser-Hill management was revisiting the efforts and schedule logic needed to attain full operational readiness of PuSPS, conduct readiness reviews, and obtain startup authorization (previously projected for late January 2001). A revised PuSPS project schedule was issued this week that now projects startup in mid-March 2001. Combined packaging and stabilization system operability testing is still projected for late November/early December with finalization of activity hazard analysis and training documentation by late December. The revised PuSPS project schedule, however, now calls for additional time for system cold runs, training efforts and line management evaluations in January and early February 2001 to achieve operational readiness. Independent contractor and DOE Operational Readiness Reviews are now projected for late February and early March 2001. (3-A)

Waste Drum Corrosion. During the past few weeks, Kaiser-Hill has identified a concern with corrosion of 55-gallon waste drums containing various sludge materials. By early this week, inspections revealed serious corrosion and/or pinholes in about 16 drums. No radiological contamination outside of these corroded drums had been detected. Drums with confirmed serious corrosion and/or pinholes are being overpacked. The corrosion is believed to be from hydrogen chloride gas formed by radiolytic reactions with the organics in the sludge. Up to about 3,800 drums (both transuranic and low-level waste drums) are in populations considered susceptible to the corrosion. Most of the drums are in Buildings 440, 964 and the 904 Pad with relatively smaller numbers in several other nuclear facilities. Kaiser-Hill is performing visual and/or ultrasonic inspections on all of the susceptible drums and an Unreviewed Safety Question Determination on this issue is being developed. (3-A)

Use of Robotics for Equipment Size Reduction. The site rep. observed a demonstration of a robotics system (including ventilated cutting chamber and waste handling areas) at a vendor in Minnesota. Size reduction operations using plasma-arc cutting were performed on gloveboxes and other equipment. The two robots (cutting and handling robots) and other subsystems operated reliably during the demonstration. While the size reduction completion times were longer than hoped by Kaiser-Hill project personnel, the demonstration generally met expectations. Building 707 is the primary facility being considered for deployment of the system at RFETS and Building 707 personnel were present for the demonstration. As previously reported, a decision by Kaiser-Hill management on deployment of the robotics system at RFETS is pending based on the results of a re-evaluation of the system cost and benefits. (3-B)