DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 23, 2001

TO: J. K. Fortenberry, Technical Director
FROM: D. F. Owen, RFETS Site Representative
SUBJECT: RFETS Activity Report for the Week Ending March 23, 2001

Building 771 Intakes Follow-up. The Kaiser-Hill investigation to identify the cause of the intakes discovered in a crew of personnel working in Room 186 (see site rep. report of February 16th) was completed last week and a report issued. No specific cause was identified. The Kaiser-Hill report states that the dose estimates for most of the crew are between 6 and 60 millirem (50-year Committed Effective Dose Equivalent). The report also states that the intakes (as identified by special bio-assay) for the crew and for several additional personnel with detectable intakes are likely the result of a series of events or exposure periods, with airborne exposure levels below the threshold of workplace monitoring systems including normal bio-assay monitoring.

Also issued late last week by Kaiser-Hill was a report of a Price-Anderson "root cause analysis" concerning the factors surrounding the discovery of the intakes, chiefly failure to record and track air sampling data. This report identifies numerous root and contributing causes such as inadequate procedures, inadequate coverage of on-the floor activities by radiological control technicians (RCTs) and their supervision, failure of RCTs to perform required duties, and failure by Building 771 management to recognize and act on the staffing, performance and skill weaknesses in the RCTs and their supervision.

DOE-RFFO and Kaiser-Hill management are considering these reports and Kaiser-Hill is determining corrective actions. These reports are being provided to Board staff for review. (3-B)

Building 771 Conduct of Work. During removal of previously drained vacuum system piping this week, one worker's hand and legs and the protective clothing for several other workers became contaminated. The contaminations were the result of a spill of contaminated liquid upon the crew unbolting the cover flange of a valve in an attempt to establish a vent point in the piping section to be removed (an air ejector pump is normally used to establish suction on the piping being removed). This valve was vertically oriented and in a low area below a vacuum system trap. This attempt followed an unsuccessful attempt to establish a vent path on an upstream valve at a higher point above the trap. Despite reported debate on this course of action, the work crew did not raise a question and seek guidance from the Building 771 "Technical Response Team" as required in such situations. This team was established in October 2000 as a key corrective action in response to the Building 771 work control problems identified in the summer of 2000 (see site rep. reports of September 15 and October 13, 2000). Additionally, prior lessons learned related to spills during pipe removal had not been effectively transmitted or implemented.

The site rep. discussed implications of this event including the failure of the work crew to employ the Technical Response Team with DOE-RFFO and Kaiser-Hill management. In addition to addressing proper conduct of pipe removal, Kaiser-Hill is determining actions to ensure that the Building 771 work crews use the Technical Response Team as intended and required. (3-B)