

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 11, 1998

TO: G. W. Cunningham, Technical Director

FROM: M. T. Sautman

SUBJECT: RFETS Activity Report for Week Ending December 11, 1998

Electrical Safety and Lock Out/Tag Out (LO/TO). In B371, a worker installing an emergency light fixture and conduit was shocked when an existing conduit was touched. The worker suffered no injuries. The electrical shock was caused by two events. First, the newly installed light fixture had a fault that allowed voltage (218 V) on the outside of a junction box. Second, there was no grounding connection/bond between the embedded and surface mounted junction boxes. All electrical work has been put on hold and inspections are being performed to see if similar problems exist elsewhere in B371.

At the Broomfield warehouse, an engineer was performing a power quality problem evaluation on a chiller for the Plutonium Stabilization and Packaging System. When he applied a current clamp on one of the chiller's conductor, the conductor arced between the wire way and split bolt splice. The arc blew a fuse in the power distribution panel, but did not injure the engineer. The cause of the arc was that the taping on the split bolt splice did not meet Electrical Code requirements. An investigation found that several RFETS safety programs were not being followed:

- No work control package was used
- No hazards analysis performed
- LO/TO was not used
- An energized electrical work permit was not used
- No electrical safety equipment used

The workers did not know which RFETS programs and standards applied to this off-site facility. K-H has informed the subcontractors that the RFETS safety programs are to be at all locations.

In B771, workers tried to remove an air actuator from an air-operated valve (AOV) without isolating 90 psig air beforehand. This incident should have never occurred. The tap and drain work package specified that the valves to be LO/TO'ed isolated two AOV's when it actually only isolated one of the AOV's. Despite all the package reviews, this error was not found. Procedure validation and verification continues to be a problem in B771. A pipefitter had told the supervisor two weeks beforehand that the procedure steps would not properly isolate the second AOV, but the supervisor ignored this information. The LO/TO Manager did not perform his required walkdown to verify the proper isolation, but relied on the flawed work package instead. Both the supervisor and LO/TO Manager were disciplined. K-H is strengthening its discipline program to force more personnel accountability.

There have been several more electrical safety and LO/TO incidents over the last three months. These events are being treated as serious events by both RFFO and K-H management.

B779 Supplied Air. D&D workers had to evacuate from a size reduction tent because of elevated CO levels in the breathing air system. The workers safely exited using their emergency air bottles. An engine operating near the breathing air compressor intake was the cause of the CO levels.

Recommendation 95-2. RFFO completed their assessment of K-H closure of issues identified in the ISMS Phase I and II Verification reviews conducted last Winter. Overall, RFFO concluded that K-H had satisfactorily closed out the findings. Although RFFO felt the new integrated work control package (IWCP) program had been significantly improved, they did find some weaknesses with IWCPs for non-maintenance activities. The assessment lead stated that both K-H and RFFO still needed to close a few issues before RFFO could declare ISMS implemented at RFETS.

cc: Board members