

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 30, 2004

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
J. J. McConnell, Deputy Technical Director
FROM: T. D. Burns/ J. S. Contardi
SUBJECT: SRS Report for Week Ending July 30, 2004

Mr. Contardi reported to the site for duty on July 26, 2004.

Worker Fatality: On Monday July 26, a worker incurred fatal injuries during the loading of a large trackhoe on a low-boy trailer. The worker was employed by a vendor used by a site subcontractor for transportation of heavy construction equipment. The injuries were incurred when the trackhoe fell on the employee while he was attempting to replace a side board on the trailer. A DOE Type A accident investigation has been initiated.

Plutonium Uptake in Building 772-1F (C-Lab): On July 9th a technician in C-Lab received contamination on the neck and face. The technician was in the process of analyzing an FB-Line oxide sample when the cap from a 8ml vial popped off and residual liquid contaminated the individual. The liquid contained plutonium and enriched uranium in an acid solution. Decontamination of the technician involved the application of a topical chelation agent. Nasal and saliva smears at the time of the incident were negative. However, subsequent bioassay results have been positive. The bioassay results have not been consistent with standard excretion models and the final reported dose will require further analysis to determine the affects of the chelation therapy.

Change in Appearance of Waste in Tank 9 Annulus: Tank 9 entered service in 1955 and began leaking into the annulus by November 1957. Previous operations removed a portion of the waste from the annulus, but residual waste is still present. Tank 9 currently contains 202.8 inches of salt and has been inactive since 1991. During an April 23, 2004, routine photographic inspection of the Tank 9 annulus, changes in the waste's appearance were noted. Comparison of previous photographs indicate the residual waste in the annulus has changed. The cause of the change in appearance is currently being investigated. Further tank inspections may be warranted to determine if the change is from tank leakage, groundwater infiltration, or other phenomena.

Technical Safety Requirement Violation at the Solid Waste Management Facility

Transuranic Pads: While performing characterization of a transuranic (TRU) drum for shipment to the Waste Isolation Plot Plant, the fissile gram equivalent (FGE) plutonium-239 was measured to exceed the Technical Safety Requirement criticality safety limit of 485 FGE. The drum was segregated and a three foot boundary established around it. The drum was generated in 1984 from FB-line. The 1984 burial slip reported zero FGE within the drum. To address the potential for other drums with under reported FGE, a set of screening criteria were developed. Approximately 125 drums do not meet the screening criteria and will require specific criticality related handling and storage requirements until properly characterized.