

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 9, 2005

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** J. S. Contardi/M.T. Sautman, SRS Site Representatives  
**SUBJECT:** SRS Report for Week Ending December 9, 2005

**Solid Waste Management Facility (SWMF):** This week, the contractor identified a transuranic waste drum which was not handled according to the requirements in the Justification for Continued Operations. The original documented plutonium equivalent curie (PEC) content of the drum was less than the assayed value measured at SWMF. The identification of non-conservative generator data has been documented previously. However, in the most recent case the contractor did not promptly recognize the significance of the increased PEC value and implement the prescribed drum handling controls (e.g., safety significant engineered enclosure).

**H Canyon:** A Technical Safety Requirement (TSR) violation was declared because the solution level in the Highly Enriched Uranium (HEU) Receipt Tank was below the thermowell elevation and thus the resistance temperature detectors (RTDs) were actually measuring the air temperature rather than the solution's. Not only did the RTDs protect against solvent fires, but they were also credited in the nuclear criticality double contingency analysis (DCA) for protection against freezing and rapid evaporation. An extent of condition review found that the design and procedures for six other HEU Blend Down tanks did not prevent operation at levels below the elevation of the TSR or DCA-required RTDs. While there were level interlocks, their location was solely based on pump protection rather than operability of the RTDs. The linkage between temperature measurement and level was not recognized when the controls were established a decade ago or in the multiple Unreviewed Safety Question (USQ) Determinations performed since then to change operating levels. An investigation determined that a systems engineer was misapplying a generic USQ Screen and bypassing the screening process. As a compensatory action, management is requiring a full USQ screen for all proposed activities and banning the use of generic USQ screens and categorical exclusions until training is conducted.

**Tritium Extraction Facility:** To help address the potential impacts from arcing in the target rod preparation (TRP) module, the contractor enlisted a technical review panel (Site Rep. weekly 11/18/05). Project personnel requested the panel identify opportunities to reduce the arcing potential and to evaluate the technical feasibility of changing the inert gas to nitrogen. Based on the number of electrical applications in the module and the poor heat transfer characteristics of argon, the panel recommended the contractor switch the inert gas from argon to nitrogen. Resolution of this issue and completion of startup testing for the TRP module has become the critical path for timely startup of the facility.

**Defense Waste Processing Facility:** The causes for last week's inadvertent pour included procedure noncompliance, inadequate evolution control, and poor communications between the control room and field. Corrective actions have been taken with those involved in the event. The facility manager is increasing the rigor of operations and verifying that the operations staff understands his conduct of operations expectations. Actions to date appear appropriate.