

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 13, 2006

**MEMORANDUM FOR:** J. K. Fortenberry, Technical Director  
**FROM:** Michael J. Merritt, DNFSB Site Representative  
**SUBJECT:** Lawrence Livermore National Laboratory (LLNL)  
Report for Week Ending January 13, 2006

**Plutonium Facility Projects:** This week, the Livermore Site Office (LSO) approved LLNL to proceed with two projects in the Plutonium Facility. The authorization to begin these projects was requested by LLNL in December 2005 (see weekly report dated January 6, 2006). The approved projects are the processing of highly enriched uranium (HEU) and performance of a radiation measurement campaign that requires an increase in room material-at-risk limits above the existing 5 kilograms fuel-grade plutonium equivalent.

The HEU project (see weekly report dated December 16, 2005) involves disposition of excess HEU oxide and metal. The metal will first be converted to an oxide to meet the processing requirements for the Savannah River Site (SRS) HB-Line. The HEU oxide will then be packaged for shipment to SRS. The LLNL processing requires the capabilities of work stations in multiple Plutonium Facility rooms using currently approved Operational Safety Plans (OSPs). The required work stations and associated OSPs have not yet entered into operational trial periods. LSO approved the LLNL request provided that the existing 5 kilogram material-at-risk room limits are in effect.

The radiation measurement activity involves passive radiation measurements of weapons-grade plutonium oxide contained in single-walled measurement standard (MS) containers. The MS containers are manufactured to American National Standards Institute (ANSI) N43.6 requirements for sealed sources. The OSP for this activity is in its operational trial period. LSO has approved the activity to proceed with up to 12 kilograms fuel-grade plutonium equivalent for a period of three weeks.

**Plutonium Facility Resumption:** Currently, approximately 40 percent of the work station capabilities (see weekly report dated December 9, 2005) in the Plutonium Facility are in either operation or in trial operational periods. The workstations are controlled by OSPs that are unique to the work station(s). The current OSP status is as follows:

- 2 OSPs in operation;
- 19 OSPs in trial operation; and
- approximately 30 OSPs in various stages of the resumption process.

The work station resumption process continues to follow the protocol documented in the *Process for Standing-Up Workstations to Limited Operations*. As part of the final preparations, gloves in many of the gloveboxes have been changed as necessary, and the data collected relating to glove replacement and inspection is being collected as part of a recent effort to establish a facility glovebox glove change program. Also, unnecessary equipment, waste, and combustible materials have been removed from the gloveboxes to comply with the facility Administrative Control Procedure for housekeeping. The conduct of operations checklist is being effectively implemented and the personnel involved in the activities are reviewing safety controls covered by the OSP, as well as, the general requirements to meet the *Nuclear Materials Technology Program Conduct of Operations Manual*.