

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 27, 2009

**MEMORANDUM FOR:** T. J. Dwyer, Technical Director  
**FROM:** B. P. Broderick and R.T. Davis  
**SUBJECT:** Los Alamos Report for Week Ending November 27, 2009

The laboratory was closed on Thursday and Friday in observance of the Thanksgiving holiday.

**Plutonium Facility – Material Relocation:** Plutonium Facility personnel have identified a number of large uranium items currently stored in the vault that could exchange places with large plutonium items currently staged on the laboratory floor. This type of material swap would place the more hazardous Pu items in a more robust storage location and lower the aggregate amount of actual material-at-risk that could be involved in severe postulated accident scenarios such as seismically-induced fires. With programmatic operations largely resumed in the Plutonium Facility, the timing and execution of these types of material swaps appear to be limited primarily by priority and funding.

**Plutonium Facility – Isotopic Fuels Impact Test (IFIT) Readiness:** This week, the NNSA site office approved a plan of action for a laboratory readiness assessment (LRA) related to the restart of IFIT activities in the Plutonium Facility. The IFIT assembly is a seven inch inert gas launcher used to perform high velocity and high temperature impact tests on robust Pu-238 heat sources designed for space applications. These operations were last conducted in 2001. An NNSA readiness assessment will also be conducted prior to restarting IFIT activities involving Pu-238 heat sources.

**Weapons Engineering Tritium Facility (WETF):** This week, LANL completed an Implementation Verification Review (IVR) of Technical Safety Requirement (TSR) page changes at WETF. The IVR team concluded that, except for the identified pre-implementation findings, WETF personnel adequately demonstrated appropriate implementation of the TSR page changes. The following six pre-implementation findings were identified:

- Inadequate tritium containment vessel cognizant system engineer level of knowledge
- Use of process information with unknown uncertainty for compliance with a TSR
- Safety basis document list did not contain all required documents
- Lack of a pressure safety program documentation package for tritium containment vessels
- A radioactive material inventory per the TSRs was not demonstrated
- A job task analysis was not performed to ensure appropriate personnel are adequately trained on the TSR page changes

The IVR team also identified four post-implementation findings and 17 observations. The function of the Work Scope Review Team that will be used to evaluate potential tritium activities to ensure compliance with the safety basis and pressure safety program requirements was identified as a positive.

WETF personnel have also begun performing sensitive leak testing on pressurized tritium systems. This is one of the final steps in verifying that these credited systems comply with pressure safety program requirements and in confirming their operability. A leak detected in a vacuum pump fitting has been repaired and a retest of this portion of the system is being performed.