

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 14, 2011

MEMORANDUM FOR: Timothy Dwyer, Technical Director
FROM: Jonathan Plaue, DNFSB Site Representative
SUBJECT: LLNL Activity Report for Week Ending January 14, 2011

Transuranic Waste Processing: The Laboratory is required by contract to comply with the *Contact-Handled Transuranic Waste Packaging Instructions* (Packaging Instructions). The Packaging Instructions were issued by the Department of Energy's Office of Environmental Management (EM) and require, among other things, a narrated video describing every article of waste as it is placed into each waste drum. Laboratory management correctly identified that compliance with the Packaging Instructions may pose an increased risk to facility workers through the increased handling of waste—including tasks such as unbundling taped glass and razor blades—necessary to support the videography requirement.

In response to this concern, the Laboratory is exploring a concept to utilize a glovebox-based shredder system. Under this concept, a portion of the waste stream, particularly waste thought to contain sharps, would be shredded and a video of the resulting material would be taken prior to placing it into a new waste drum, thereby minimizing human contact with the waste and eliminating worker risk. To date, the Laboratory has successfully performed tests with a candidate shredder utilizing surrogate waste parcels. The Livermore Site Office (LSO) and the Laboratory are currently seeking acceptance of the shredder concept from EM. In recent history, EM rejected a variant of the shredder concept proposed at the Hanford Site.

Startup and Restart: On January 6, 2011, the Laboratory transmitted to LSO the 2nd Quarter Startup Notification Report (SNR). Two activities were added concerning the Hardened Engineering Test Building: (1) the Unholtz-Dickie T4000 vibration machine with Kimball slip table (referred to as a Shaker) and (2) the time-dependent acceleration testing machine (referred to as a Jerk Tester). These apparatuses are utilized to test weapons components containing nuclear material against some of the forces experienced during the stockpile to target sequence environments. The Laboratory desires to establish these capabilities to support potential future Life Extension Program efforts. The SNR proposed LSO readiness assessments for the Shaker and Jerk Tester with a schedule projected for May and July 2011, respectively. This schedule is very aggressive—facility and program staff began development of a detailed project schedule this week.

In addition, the SNR added a contractor readiness assessment for the initial startup of the West Wing of the Tritium Science Station with a projected schedule of April 2011. The projected date of the LSO readiness assessment for the Chlorination system also slipped from March to May 2011 (weekly report dated October 22, 2010). The Site Representative notes that formal plans or schedules do not currently exist for either of these activities. The expectation of a basic project schedule as a prerequisite to inclusion on the SNR would aid the efficient use of startup and safety basis assets, as well as improve timely execution of programmatic objectives. Such a practice would be consistent with a recent process improvement recommendation to develop a project plan for each Superblock project (see weekly report dated November 12, 2010).

Other Laboratory Activities: This week, shuttle buses fueled by hydrogen gas began operations (see weekly report dated September 2, 2010).