

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 1, 2011

**MEMORANDUM FOR:** T. J. Dwyer, Technical Director  
**FROM:** B.P. Broderick and R.T. Davis  
**SUBJECT:** Los Alamos Report for Week Ending April 1, 2011

**Plutonium Facility – Criticality Safety:** This week, Plutonium Facility management declared a TSR violation based on the discovery that the material form of some plutonium items stored in two vault rooms does not comply with criticality safety requirements specified in a Justification for Continued Operations (JCO). Vault rooms B and I have been operating under a JCO since 2007 when laboratory personnel found that criticality safety limits for locations in these rooms were not adequate to prevent criticality under all normal and credible abnormal conditions. Criticality safety controls in the current JCO revision only provide approved material limits for plutonium metal and oxide items. On Monday, Plutonium Facility vault operators recognized that 22 plutonium residues and 9 plutonium compounds are currently stored in vault rooms B and I, in violation of JCO controls that only allow metal and oxide forms.

**Plutonium Facility – Seismic Safety:** The site office recently responded to the LANL analysis of options to achieve a seismically-qualified safety-class active confinement ventilation system and requested refinement of the baseline scope considering additional upgrade options. Upgrade and seismic qualification of the bleed-off subsystem and minimum power and controls is identified as the baseline scope. As the preferred alternative is refined, LANL plans to consider the following additional scope beyond the baseline: equipment and ducting downstream of the glovebox exhaust filter plenums; portions of the recirculation system; full ventilation control system upgrade; new diesel generator building (south of facility) versus reuse of the north-side generator building; and flywheel generators. The site office notes that a workshop would be an appropriate forum for evaluation of these different options.

**Material Disposal Area-B (MDA-B):** This week, the site office directed LANL to provide a path forward for aggressively reducing radioactive inventory at MDA-B. Early this month, LANL notified the site office that above ground inventory at MDA-B exceeded 28 PE-Ci. In accordance with previous correspondence, LANL is required to notify the site office when inventory is greater than 28 PE-Ci. The site office direction requests the current waste shipment schedule and the programmatic and operational drivers that require above ground inventories above 28 PE-Ci. The site office also directed LANL to provide additional notifications if inventory levels exceed 35 PE-Ci and again at 40 PE-Ci.

**Safety Basis:** Based on recent application of the new information process, the site office has directed that LANL review the site procedure as used in these recent applications and submit recommended improvements to the site office for concurrence. The site office notes that the LANL new information procedure appears to circumvent requirements for contractor actions upon discovery of a Potential Inadequacy of the Safety Analysis (PISA). For several recent issues identified at the WCRR repackaging facility, LANL followed the new information process and concluded these issues would not result in PISAs and exited the process. The site office concluded that for these issues, LANL use of the new information process went beyond determining if the information was credible and had a nuclear safety nexus, which possibly resulted in incomplete execution of the unreviewed safety question process.