

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 16, 2010

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending July 16, 2010

Andersen, Caleca, Hadjian, Kimball and Porter were onsite this week to discuss ongoing seismic and structural analyses for the Chemistry and Metallurgy Research Replacement Project.

Transuranic Waste Facility (TRUWF) Project: This week, a team sponsored by the NNSA Office of Project Management and Systems Support (NA-54) conducted an Independent Project Review (IPR) to support a request for Critical Decision-1 for the TRUWF Project. The IPR scope included evaluation of nuclear safety, safety basis, and risk management. The team intends to have a draft report prepared next week.

In advance of the IPR, the NNSA site office issued a Conceptual Safety Validation Report (CSVR) approving the TRUWF project's Conceptual Safety Design Report. In the CSVR, the site office states that its review identified two issues that could affect the ability of the project to proceed. One issue relates to a lack of effective controls to mitigate public and collocated worker consequences for a postulated aircraft crash scenario. The other issue deals with the use of non-conservative analytical assumptions for a seismic impact scenario and the potential for the seismic design category of TRUWF building structures to change if conservative assumptions are used.

The CSVR asserts that more refined analysis is needed to support dose calculations and to provide a basis for the selection of controls, but concludes that the project should be capable of proceeding to the next stage of design if these issues are addressed in a timely manner. To prompt timely resolution, the site office issued formal conditions of approval to address concerns with the aircraft crash scenario within 30 days and to re-evaluate the seismic impact scenario within 90 days.

Transuranic Waste Operations: In late June, LANL management submitted a new Basis for Interim Operations (BIO) for transuranic waste operations at Area G to the NNSA site office for review and approval. The existing Area G BIO was approved in 2003. The new BIO identifies four postulated accident scenarios (fuel pool fire from container leak, aircraft crash, wildland fire and seismically-induced fire) where effective safety class controls cannot be credited to mitigate offsite dose consequences to below the DOE Evaluation Guideline. The proposed BIO credits three engineered controls (safety class vehicle barrier systems at high-risk locations and safety significant transuranic waste drums and drum venting system) and eighteen specific administrative controls to prevent or mitigate postulated accidents.

Plutonium Facility: LANL personnel recently completed the fourth and penultimate Independent Verification Review (IVR) of Technical Safety Requirements associated with the 2008 Plutonium Facility DSA. The scope of the IVR included TSR controls related to the vault water bath, glovebox support stands, laboratory room and glovebox transient combustible loading, and special nuclear material containers. The review identified five pre-implementation findings. This IVR was also initially intended to verify implementation of important new material at risk (MAR) controls. However, due to delays associated with the newly developed MAR Tracker software used to implement these controls, verification of MAR TSRs will be deferred to the final IVR.