

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 2, 2010

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending July 2, 2010

Weapons Engineering Tritium Facility (WETF) – Readiness: This week, the NNSA Operational Readiness Review (ORR) team completed their review and recommended to the startup authority (NNSA site office manager) that WETF be authorized to restart tritium gas handling operations following closure of pre-start findings and approval of corrective action plans for post-start findings. The team identified six pre-start findings and ten post-start findings (including two post-start findings associated with the site office). The team noted that the lack of a defined process to evaluate gaps in safety management programs and identify corresponding compensatory measures complicated the readiness review. The team also observed that there appeared to be weaknesses in both LANL and site office activities to demonstrate and verify readiness prior to the ORR. The ORR team also recommended that an integrated plan for overall startup (i.e., beyond the first phase of operations reviewed by the ORR) that is linked to safety basis and formality of operations improvements will help support future startup activities.

Weapons Engineering Tritium Facility – Safety Basis: This week, facility management declared a potential inadequacy of the safety analysis based on the discovery that safety significant tritium vessel storage racks could not perform their credited safety function. During a facility walkdown, an ORR team member identified that metal retaining plates used to position and secure tritium vessels in the storage racks were not mechanically fastened to the rack assembly. Original design calculations used to demonstrate the storage racks would meet required performance category (PC)-2 seismic criteria assumed the retaining plates were securely connected to the rack assembly. Without this secure connection, the racks cannot perform their seismic safety function.

In late 2009, an updated analysis of the seismic capacity of these storage racks performed in support of the Seismic Analysis of Facilities and Evaluation of Risk (SAFER) project also concluded that the racks could meet PC-2 criteria. Although current system drawings reflect a lack of connection between the retaining plates and the rack assembly, the SAFER evaluation used the original design calculation that assumes this connection as a key input. As a result, the conclusions of the SAFER evaluation suffer from the same faulty assumption found in the original calculation.

Radioactive Liquid Waste Treatment Facility (RLWTF): This week, the assessment lead outbriefed preliminary results from a Facility Centered Assessment (FCA) of the RLWTF. Unlike previous FCAs, this review was chartered at the Responsible Associate Director (AD) level rather than at the Laboratory Director level. The review was shadowed by representatives of the DOE's Office of Health, Safety and Security (HS-64) and the NNSA site office. Overall, the assessment team concluded that within the last year RLWTF has become the most improved and best operationally managed facility at LANL. This conclusion underscores the effectiveness of management restructuring and leadership changes at RLWTF, including a shift in AD and Facility Operations Director ownership and the addition of a highly experienced Operations Manager. It will be critical to sustain this high level of operational performance as the anticipated operating lifetime of the existing RLWTF continues to grow due to delays in the RLWTF-UP project.