

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 3, 2019

TO: Christopher J. Roscetti, Technical Director

FROM: Daniel B. Bullen, Ph.D., P.E., Cognizant Engineer

SUBJECT: Lawrence Livermore National Laboratory (LLNL) Report for April 2019

Defense Nuclear Facilities Safety Board (Board) Staff Activity: The Board's staff provided zero person-weeks of on-site safety oversight at LLNL during April 2019.

TRU Waste Characterization CRA Final Report: On April 2, 2019, Lawrence Livermore National Security, LLC (LLNS) issued their *Final Report: Contractor Readiness Assessment (CRA) Transuranic (TRU) Waste Characterization Operations*. The CRA report identified six pre-start findings (See LLNL Report for March 2019). LLNS will complete corrective actions to address these findings prior to the Federal Readiness Assessment, which is currently scheduled for May 13-17, 2019.

TRU Waste Container Inspection Interval: On April 8, 2019, LLNS submitted a 14-point amendment and proposed page changes for the Waste Storage Facilities (WSF) Documented Safety Analyses (DSA) and Technical Safety Requirements (TSR) to the Livermore Field Office (LFO) for approval. LLNS noted that the proposed page changes increase the inspection interval of TRU waste containers from 7 to 14 days. This change is required to support the completion of gas generation tests as part of the characterization of TRU waste containers prior to shipment to the Waste Isolation Pilot Plant for disposal. LLNS also noted that the increase in inspection interval does not change any accident analyses in the WSF DSA. In addition, the use of gas generation test canisters is already evaluated in the WSF DSA hazard analysis. LLNS concluded that these modifications do not change the overall risk assumed in the WSF safety basis. On April 25, 2019, LFO approved this request with a clarification that the inspection frequency be extended to 14 calendar days.

Evaluation of the Safety of the Situation (ESS) Related to Cracked Glovebox Windows in Building 332: On April 4, 2019, LLNS provided an ESS pertaining to the Potential Inadequacy of the Safety Analysis, declared by LFO on March 7, 2019, related to cracked glovebox windows in Building 332. Previously, LLNS completed an Unreviewed Safety Question Determination (USQD) on March 14, 2019, which included a review of the entire Building 332 DSA hazard and accident analysis. In its negative USQD, LLNS noted that the DSA analysis evaluated multiple events, including seismic events, and that gloveboxes withstand seismic events because the overall glovebox design isolates the windows from the seismic load path. LLNS is continuing its efforts to identify the failure mechanism(s) for the glovebox under-pressure event that caused the cracked glovebox windows.

Startup/Restart Notification Report (SNR): On April 8, 2019, LLNS submitted the SNR for the third quarter of fiscal year 2019 to LFO for approval. The SNR included the Building 332 Recovery Glovebox Line and the Building 332 Hydrogen Gas System, both of which have projected startup dates in the 6–12 month timeframe. Two additional restart activities related to TRU waste, TRU Waste Characterization and TRU Package Transporter Model II (TRUPACT-II) loading, have projected startup/restart dates of June 20, 2019, and December 18, 2019, respectively. LLNS noted that contractor readiness assessment (CRA) for TRU Waste Characterization was completed in March 2019 and the Federal readiness assessment (FRA) is scheduled for May 2019. The CRA and FRA for TRUPACT-II loading are scheduled for September 2019 and December 2019, respectively.