

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 9, 2021

MEMORANDUM FOR: Christopher J. Roscetti, Technical Director
FROM: J.W. Plaue and D. Gutowski, Resident Inspectors
SUBJECT: Los Alamos Activity Report for Week Ending April 9, 2021

Plutonium Facility–Safety Basis: On Monday, facility personnel took safety basis required actions after receiving information questioning whether they were appropriately accounting for encapsulated plutonium-238 heat sources in the calculation of material-at-risk (MAR). Specifically, personnel performing an extent-of-condition review on sealed-sources found that individual liners, rather than the full three-layer assembly, were being credited with a damage ratio of zero. While the liners have the testing and pedigree to support the use of this damage ratio, the safety basis has not yet fully implemented this control. Facility personnel removed the credit for the partial assemblies and satisfactorily performed the MAR surveillance on Wednesday. Facility management plans corrective actions related to the implementation verification review process and assignment of dedicated safety basis analysts for each programmatic operations group.

Transuranic Waste Management: On Monday, Plutonium Facility and Central Characterization Program (CCP) personnel resumed visual identification and examination activities in support of waste drum-outs. To resume these activities before the completion of the ongoing causal investigation into the reactive titanium fines (see 3/19/2021 report), waste management personnel instituted compensatory measures including: only processing waste streams from air atmosphere gloveboxes, implementing a new database to capture the date and location where waste packages originate, and providing training on newly revised policy documents. Meanwhile, the causal investigation team continued its efforts and remains on schedule to out-brief senior leadership next week. Notably, the team reviewed CCP requirements as the impact LANL waste characterization processes.

Weapons Engineering Tritium Facility: On Monday, facility operations personnel discovered that a tritium room monitor had failed during the weekend due to loss of flow. They took the required safety basis actions and were able to restore operability to the unit; however, the unit failed again later that day. This was the same unit that had failed earlier this year (see 2/5/2021 report). Discussion at the fact-finding centered around whether the issue was associated with the gas supply or the monitor itself. Based on a suggestion from an engineer, facility personnel swapped the monitor with another unit from a different room that had multiple monitors. This approach allowed them to isolate the problem between monitor and gas supply. On Wednesday, the swapped monitor also alarmed. Facility personnel further investigated and found a regulator for the gas supply that was set below the expected pressure. Facility management is using this experience to emphasize more comprehensive troubleshooting when safety systems malfunction.

Legacy Facilities: On Thursday, N3B received EM Field Office unconditional approval of the evaluation of the safety of the situation for the TA-21-257 radioactive liquid waste treatment facility and associated industrial waste lines (see 9/18/2020 report).

Federal Oversight: Last month, the NNSA Field Office issued its corrective action plan to address the Chief of Defense Nuclear Safety's biennial review of nuclear safety performance (see 10/16/2020 report). Field office leadership concluded that the issues are all low risk in accordance with their issues management process. As a result, none of the issues required a causal analysis. Corrective actions are scheduled to be completed by May 2022.