

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 11, 2022

MEMORANDUM FOR: Christopher J. Roscetti, Technical Director
FROM: D. Gutowski and J. Plaue, Resident Inspectors
SUBJECT: Los Alamos Activity Report for Week Ending March 11, 2022

DNFSB Staff Activity: On Tuesday, staff members conducted a teleconference with personnel from the Idaho National Laboratory, the DOE Idaho Operations Office, the NNSA Headquarters, and the NNSA Los Alamos Field Office. They discussed contingencies associated with the campaign to ship heat-source plutonium to the Plutonium Facility in quantities that exceed the current safety basis limits (see 11/26/2021 report). Of note, DOE/NNSA stated that they have no contingencies should the plan to ship this material to LANL be foreclosed for any reason.

Plutonium Facility–Operations: Last Wednesday, after a question from a resident inspector, operations personnel assessed waste drums staged near a pencil tank and declared a potential process deviation. At a fact-finding held on Tuesday, facility personnel confirmed that three drums violated a criticality safety requirement because they were too close to pencil tanks that have recently been determined to contain fissionable material. This is the third time this issue has recently occurred in this room (see 2/18/2022 report). Fact-finding participants confirmed previous concerns about posting inactive equipment locations that have been determined to contain holdup. After a revitalization of the holdup measurement program, there are currently about 30 of these locations across the facility. Participants also discussed broader concerns with the imprecision in the language of a criticality safety limit that specifies a standoff from “any other fissionable materials,” since this could be interpreted to include minor contamination.

Plutonium Facility–Glovebox Safety: On Wednesday, facility personnel conducted two fact-findings for recent glovebox glove breaches. In the first event, after moving tools a worker observed a breach while inspecting gloves prior to removing their arms. This is the best time to catch a breach and the subsequent response worked as intended without any release of radioactive contamination to the room. In the second event, a worker felt a pinch while releasing a tool from a holding bar, did not observe a glove breach upon inspection, but identified contamination on their inner gloves while surveying immediately upon removing their arms. This is the second-best time to catch a breach and contamination spread was also avoided. Glovebox safety personnel recommended that both activities use protective overgloves in the future. For the second event, they also recommended that line management select a more frequent glovebox glove change periodicity as the glove was on year 7 of the 10-year default service life.

Last year, glovebox safety personnel identified 19 glove failures or breaches in the facility. While this represents an improvement from about 2.5 glove failures per month experienced in earlier years, glovebox safety personnel recognize that improvements are still needed, particularly as the amount of work in the facility increases. They have started several initiatives including developing improved metrics, deploying an in-service leak testing device for glovebox gloves, refining procedures and training related to gloves, and applying additional scrutiny of selection of glove change frequencies.

Plutonium Facility–Safety Basis: On Tuesday, the NNSA Field Office approved a revised version of the combined justification for continued operations/evaluation of the safety of the situation pertaining to the July 2021 overflow event (see 2/11/2022 report). The field office directed two changes in the wording of Specific Administrative Controls.