

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 1, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: Frank Harshman, Clinton Jones, and Brandon Weathers, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending July 1, 2022

NPO: NPO reviewed and approved a CNS proposed method to increase the threshold quantity values applicable to bulk uranium metal used to determine the final facility hazard categorization, when certain criteria are met. CNS expects a bulk shipment of uranium metal to be stored in the future. If the increased threshold quantity values are used instead of the threshold quantity values from DOE Standard 1027, *Hazard Categorization of DOE Nuclear Facilities*, then the storage facilities for the anticipated shipment will not be required to be designated as nuclear facilities. In support of the review for this change, NPO requested that CNS develop an additional report based on concerns that the DNFSB documented in a letter from September 2018 regarding the applicability of the Y-12 experimental results that were used as a basis for the increased threshold quantity values. In the approval, NPO stated that facility-specific application of CNS's new method will require a separate approval when the method results in a change in final hazard categorization. The NPO document approval report also noted that the CNS experimental data used to generate new airborne release fraction and respirable fraction values is being included in a revision to DOE Handbook 3010, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities*.

Building 9204-2E: CNS entered the inoperable criticality accident alarm system issue (see 6/24/22 report) into the potential inadequacy to the safety analysis process to evaluate whether or not the installation of the indicator lights increases the potential to cause a power supply failure to safety equipment. A critique was completed this week to address gaps in the actions taken during performance of the weekly surveillance. The resident inspector inquired whether the surveillance frequency was adequate due to the recent failure of the newly installed power indication lights on the safety system. As a follow up action, CNS is processing a temporary modification to remove the installed indicator lights and perform voltage verification of the system manually. This allows time for an engineering evaluation of the issue to be performed.

Conduct of Operations: CNS responded to the issues that NPO facility representatives identified with CNS's implementation of operator aids (see 6/17/22 report). CNS's causal analysis of the issues identified a lack of management oversight as the primary cause. CNS found that there was no required oversight for the performance of the annual and semi-annual review of operator aids. In some cases, the individual performing the periodic reviews did not use the appropriate acceptance criteria from the Y-12 conduct of operations manual. CNS is revising the Y-12 conduct of operations manual to establish management oversight of the periodic operator aid reviews. CNS is also designating the operator aid coordinator on the duty roster for each facility and reviewing and updating the current status of operator aids.

Nuclear Criticality Safety: Over the weekend, CNS completed the final system isolations for the out-of-service system in Building 9212 where a greater than expected quantity of U-235 was found in December 2021 (see 12/10/21 report). CNS had previously cleaned out the removable fissile material and performed electrical and piping isolations in January (see 1/28/22 report).