

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 27, 2023

TO: Katherine R. Herrera, Acting Technical Director
FROM: Frank Harshman and Clinton Jones, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for the Week Ending January 27, 2023

Cold Weather Event: The resident inspectors attended the kick-off meeting for CNS's systems analysis and improvement review for cold weather planning and events. The review was initiated in response to the numerous issues resulting from the recent freeze event (see 12/30/22 and 01/06/23 reports). The review will evaluate the seasonal protection plans and inspections to plant facilities, systems, and equipment with respect to freezing weather conditions. The review is expected to conclude the week of March 6, 2023 with the issuance of a final report.

Building 9212: The resident inspectors, along with the NPO facility representative, observed the delivery and installation of the final hydrogen fluoride (HF) cylinder into dock 8A. In September 2022, CNS decided to shut down the oxide conversion facility (OCF) and reduction operations by June 30, 2023, and December 31, 2023, respectively (see 11/10/22 report). CNS approved the formal OCF and reduction shutdown plan, which documents the activities necessary to complete the final production runs in the OCF and reduction production areas. The plan provides details on how CNS plans to achieve an orderly cost-effective shutdown and place the equipment in cold standby. CNS's plan dictates that OCF operations will be shut down at the end of June 2023, regardless of whether the seven production runs have been completed or the HF cylinder is fully exhausted. If all seven production runs are completed prior to that date, operations in OCF will be shut down at that time. CNS will submit revisions to the Building 9212 safety basis to remove certain controls once the hazards posed from HF are removed and OCF is in cold standby.

Criticality Safety: CNS discovered a surveillance required by a criticality safety evaluation (CSE) had not been performed since its inception in 2019. Operators found the past due surveillance while completing a roundsheet. CNS created the surveillance to inspect the glovebox ventilation system HEPA filters for oil based on an issue that was found in 2019. The shift manager appropriately entered the procedure for an abnormal condition involving fissile material, establishing an administrative boundary around the glovebox. An extent of condition review was completed of all CSEs that were tied to surveillances in Building 9204-2E and another surveillance was discovered (bumper inspection) to have not been performed as required by a CSE. While resolving the bumper inspection issue, a CSO questioned the validity of oil being present in the ventilation system which resulted in another administrative backoff. No fissile material was present in the glovebox in question during the initial discovery and fissile material is currently not allowed in the glovebox until the CSE is revised. A system modification was completed in 2019 that added demisters to remove any oil that could have potentially been introduced by the vacuum pumps in the ventilation system for the glovebox. The CSE stated that the normal condition of the ventilation system was dry but had analyzed for an oil moderated system as an abnormal condition. CNS developed actions to resolve this by implementing a DCN to the CSE to acknowledge oil in the ventilation system as an expected condition. As a result of the investigation, additional corrective actions were to perform implementation verification of all CSE changes in the nuclear facilities, revise training and procedures for personnel, and perform a surveillance review across all nuclear facilities.