

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 17, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: Frank Harshman and Clinton Jones, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending May 17, 2024

Building 9998: The resident inspector (RI) attended an event investigation for welding performed with an inadequate hot work permit. The Y-12 Field Office (YFO) facility representative (FR) performed a walk down of a welding area and found the welding being performed was not in accordance with the hot work permit due to combustible materials being within 4 – 6 feet of the welding area. The hot work permit stated no combustible materials were allowed within 35 feet unless they were protected. The FR notified the welder and pipefitters that were working in the area and the workers paused work. The FR also notified the shift manager (SM) separately. The workers covered the combustible material with Herculite material, which itself is combustible, and continued welding preparations the following day. The workers were under the impression that the job hazard analysis gave them permission to weld as long as combustible materials were at least 5 feet away from the hot work. This was in contradiction to the hot work permit, which only had the box checked that stated combustible materials be removed or protected if within 35 feet. The permit did not have special instructions to allow hot work with combustibles outside of a 5 feet radius. CNS did not communicate with the FR about the corrective actions taken to address his concern. The FR returned to the area the following day to discover the combustible material in the area had not been moved and other combustibles had been covered with Herculite. The FR notified the workers and they again paused work. The FR went to the SM's office to discuss his concerns. The SM did not place a hold on welding operations until the following morning. During the investigation, the RI noted there was a lack of communication of the FR's concerns with management which allowed the issue to persist for two days. Also, the use of Herculite as a covering for combustible material in welding areas should be reassessed as it will not prevent a fire due to welding slag.

Highly Enriched Uranium Materials Facility (HEUMF): The RI attended an event investigation for disconnected lightning protection system (LPS) grounding wires. The RI identified the issue during a previous walk down which resulted in CNS electing to conduct a fact finding (see 02/23/2024 report). The documented safety analysis (DSA) for HEUMF states that lightning is not considered an accident initiator since there is an LPS that meets the requirements of national fire protection association code. CNS evaluated a potential inadequacy in the safety analysis (PISA) for the LPS not matching the description provided in the DSA. CNS reconnected the grounding wires thereby retuning the LPS to compliance and declared a PISA does not exist due to the discrepant-as-found condition being corrected.

Building 9201-05: The RIs and CNS legacy facilities management conducted a walkdown of Building 9201-05. Building 9201-05 is a Manhattan project era production facility that contains numerous legacy hazards such as beryllium, mercury, radiological contamination, asbestos, tetrachloroethylene, and uranium alloys. CNS stopped conducting routine internal inspections of the building due to these industrial hazards. In the resident inspector's opinion, routine periodic entries into legacy facilities enables the early detection of issues, such as the spread of contamination outside of radiological boundaries, so that they can be addressed when the condition is easily manageable.