

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 28, 2023

TO: Timothy J. Dwyer, Acting Technical Director
FROM: Clint Jones, Resident Inspector
SUBJECT: Oak Ridge Activity Report for Week Ending July 28, 2023

Staff Activity: F. Harshman was out of the office this week. C. Jones attended UPF safety training on Wednesday, July 26.

Conduct of Operations: CNS conducted an event investigation on a personnel contamination event in Building 9212. During the investigation process, the event was discovered to be non-reportable per the CNS occurrence reporting procedure due to the contamination level being lower than the limits by a factor of ten. CNS rescinded the occurrence report that was filed. The investigation uncovered that the chemical operator that was contaminated was on the wrong radiological work permit (RWP) and subsequently wearing incorrect personal protective equipment. The operator had performed a task in the morning and returned after a lunch break to perform a different task. The afternoon task required signing onto a different RWP, which was not done. Additionally, the chemical operator did not use a personnel contamination monitor after performing the afternoon task and relied on a hand frisk prior to exiting the area and entering an office space within the material access area. This action added to the possible spread of contamination. The Building 9212 managers attending the event investigation did put actions in place beyond briefing the team to help resolve the issue. This is the fourth event this year involving personnel performing work on an incorrect RWP or not signing into a RWP (see 2/3/23, 4/7/23, and 5/12/23 reports).

Criticality Safety: NPO approved the submittal of the Justification for Continued Operations (JCO) and Evaluation of the Safety of the Situation (ESS) for the potential inadequacy in the safety analysis (PISA) associated with the legacy criticality accident alarm system (CAAS) annunciation system reliability. The JCO/ESS resolves the PISA condition (see 11/18/22 report) by implementing three planned actions. Firstly, CNS will develop a reliability plan for the CAAS annunciation equipment in the legacy CAAS facilities to programmatically monitor, manage, and ensure the reliability of the equipment. Secondly, CNS will update the legacy CAAS facilities' safety analysis report and technical safety requirements to credit the reliability plans developed. Finally, CNS will improve the reliability of the CAAS annunciation equipment through design upgrades, preventative maintenance, increased programmatic monitoring, or other enhancement strategies as developed in the reliability plan. A compensatory measure is in place while these actions are being developed. This compensatory measure requires performance of a semi-annual functional test of the CAAS digital message recorder (DMR) and associated rack equipment to ensure it will produce a clarion horn tone over the speaker system. This assures continued operability of CAAS by testing non-redundant components not routinely tested by the operations center voice announcements. The compensatory measure will remain in place until a DMR replacement with a monitored tone generator is complete. The tone generator will be monitored by the existing non-credited system that is in place to alert operations of potential problems with different aspects of the CAAS system, including power loss, speaker loss, etc. This will result in a significant upgrade to the current annunciation system that does not have monitoring of the DMR.