

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 1, 2023

**TO:** Timothy J. Dwyer, Acting Technical Director  
**FROM:** Clinton Jones, Resident Inspector  
**SUBJECT:** Oak Ridge Activity Report for Week Ending December 1, 2023

**Building 9204-2E:** On Monday, the operations center notified the shift manager of a power surge on site. This caused a backup diesel generator to start. This generator provides an alternate power feed to 1) the emergency notification system and 2) the alternate horns and lights portion of the criticality accident alarm system (CAAS). After consultation with the operations manager, the shift manager entered the limiting condition for operation (LCO) for a partial loss of annunciation in the CAAS. CNS issued an occurrence report based on a performance degradation of a safety significant system. There was no confirmed loss of power to the system at the time, or indications of power loss to the system on the non-credited monitoring system, but several power breakers to the facility had tripped offline. The shift manager exited the LCO the following morning after successful performance of the surveillance requirements.

**Building 9215:** During a newly implemented action from the Conduct of Operations Continuum Plan to increase floor time of supervisors, a supervisor discovered an old revision of a procedure in use in the machining area. CNS issued the procedure in February as revision 0, then revision 0.1 went effective in August. The revision added an additional component to the list of items that could be machined on the lathes with specific nuclear criticality safety restrictions on chip collection pans that were required to be installed. The basis of the procedure was to codify guidance of a new criticality safety analysis that eliminated the use of a neutron poison in the machine coolant. Upon discovery of the out-of-date procedure revision, the production support manager directed the supervisor to stop component machining until a determination was made about the procedure. Later that day, the production support manager paused all machining activities in the facility. Typically, procedure verification is performed at the start of the week, where the procedure revisions to be used are compared to a list generated by the facility. When this procedure was revised back in August, it was not added to the revision list, allowing continued use of the old revision on machining operations. The resident inspector verified there was not a nuclear criticality safety concern even though workers machined several components that were not part of the old procedure's scope. These machined parts were included in the latest revision of the procedure and are bounded by the criticality safety analysis. CNS planned actions from the event investigation include creating a new procedure verification list, briefing supervisors on working copy verification of procedures, and developing a procedure revision distribution list for supervisors in the area.

Last week during a depleted uranium casting, three employees were contaminated during the lowering of the stack-up. After the stack-up was lowered into the cooling tunnel, the supervisor and employees walked to the hand frisking station where they all alarmed the monitors. Radiological control technicians were notified and provided successful decontamination efforts. Although none of the contamination on the personnel rose to reportable levels, above 50,000 dpm, contamination was present on the head, face, neck, shirt and in nasal smears obtained from the individuals. Multiple indications of problems during the casting operation arose, such as the inability to maintain vacuum on the system, yet the personnel did not pause operations.