

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 21, 2020

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Matthew Duncan and Brandon Weathers, Resident Inspectors  
**SUBJECT:** Oak Ridge Activity Report for Week Ending February 21, 2020

**Building 9212:** CNS resumed fissile material operations in the area of Building 9212 where a lockbox dolly containing enriched uranium was found outside of its approved storage area (see 2/7/20 report). CNS performed a causal analysis and completed initial actions to address aspects of several of the root causes. The root causes were: the lockbox and dolly design creates the potential for operator error, previous corrective actions were not institutionalized, lack of specificity and/or understanding in the operator roles for doing the work and checking/verifying the work, and the need to train operators and supervisors on how to identify that an event is multifaceted. NPO completed a reactive assessment of corrective actions prior to the resumption of operations that concluded expectations were met.

A similar event occurred in 2008 and resulted in a corrective action of leaving the lockbox door open to visually indicate that the box is empty. This practice was later stopped due to personnel injury concerns of walking into the open door and potential radiological contamination risks.

**Building 9212:** CNS declared a potential inadequacy of the safety analysis for the unanalyzed materials found in a phase separator (see 2/14/20 report). CNS developed then successfully executed a recovery plan to drain and rinse the system while obtaining samples of each material. CNS plans to critique the event once sample results are available early next week.

**Nuclear Criticality Safety:** CNS is working on actions to improve the immediate response to discovering a nuclear criticality safety requirement violation in the field. These actions are intended to address instances where a prompt notification of the event to nuclear criticality safety personnel does not occur. Procedures used by other Y-12 organizations were revised to include a step to notify nuclear criticality safety personnel and reference the abnormal operating procedure for conditions involving fissile material. Work crew briefings were held for both fissile and non-fissile workers to emphasize the correct response to discovering nuclear criticality safety violations. Operations supervisors are attending additional classroom training on nuclear criticality safety. Appropriate questions based on such scenarios are planned to be added to the oral boards for supervisors, shift managers, and shift technical advisors.

A simulation was conducted this week that involved chemical operators discovering that a nuclear criticality safety requirement had been violated. The personnel working in the area correctly responded by backing off to establish administrative control and making the correct notifications (including nuclear criticality safety personnel).