

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 7, 2018

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Matthew Duncan, Resident Inspector  
**SUBJECT:** Oak Ridge Activity Report for Week Ending September 7, 2018

**DNFSB Staff Activity:** R. Jackson visited Y-12 to obtain information to support potential future staff reviews of Uranium Processing Facility construction activities.

**Building 9204-2 Downgrade:** Last week, CNS and NPO officially downgraded Building 9204-2 from a hazard category 2 nuclear facility to a radiological (i.e., less than hazard category 3) facility. This significant effort began in January 2014 when NPO's Assistant Manager for Nuclear Safety and Engineering requested that the previous contractor evaluate the hazard categorization of several nuclear facilities. To accomplish this, CNS relocated several nuclear operations to Building 9204-2E between 2016 and 2017 such as nuclear material storage and production ovens. In May 2017, CNS ceased all fissile material operations in the facility. NPO approved CNS's proposed safety basis documentation changes in January 2018. Last week, the resident inspector accompanied several NPO personnel while they performed their final facility walkdown in Building 9204-2 and Building 9204-2E in preparation for the downgrade. Notably, the quantity of uranium-235 holdup remaining in the facility is negligible as confirmed by extensive work by nuclear material control and accountability personnel. In addition, CNS has proposed relocating a certain fissile material operation located in Building 9204-2E near a wall adjoining the two facilities. This was in response to a condition of approval from NPO in January that required that CNS develop a strategy to address the impact of a potential seismic event should damage to Building 9204-2 impact Building 9204-2E.

Removal of fissile material storage and operations from Building 9204-2—a facility constructed during the Manhattan Project—was a significant nuclear safety improvement that reduced the risk to workers and the public.

**Highly Enriched Uranium Materials Facility:** The secondary confinement system is credited to reduce the risk of a fire by reducing the consequences of an airborne release of hazardous materials resulting from a fire. It is designated as a safety significant system as it provides significant defense in depth. The fire protection systems provide primary active mitigation for the design basis fire event. The secondary confinement system isolation system relies on operable smoke detection for actuation unless the service areas with inoperable smoke detectors are isolated.

On Tuesday, an air handling unit tripped and shut down improperly without proper isolation causing a loss of smoke detection due to a low flow rate condition. Operations personnel declared the secondary confinement system inoperable and entered the appropriate limiting condition for operation. This condition requires a weekly status check of the fire protection systems to ensure operability and to restore operability of the secondary confinement system within 92 days. No other compensatory measures are required. CNS plans to report this event as a performance degradation of a safety system which prevents satisfactory performance of its design function when it is required to be operable.