

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 21, 2021

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Matthew Duncan and Brandon Weathers, Resident Inspectors  
**SUBJECT:** Oak Ridge Activity Report for Week Ending May 21, 2021

**Building 9212:** CNS conducted an event investigation of the incident that resulted in five continuous air monitors (CAMs) alarming last week (see 5/14/21 report). Additional details about how the event transpired showed that some operators wearing respiratory protection remained in the area. Other operators initially left the area to retrieve personal air purifying respirators and returned. These operators remained or returned in order to secure special nuclear material in a manner that would preclude the need to perform a longer inventory process prior to resuming operations after the event. During the event investigation, operators estimated that they were in the area for ten to twenty minutes performing these activities that were not related to personnel safety. At that time, personnel did not know the source of the release and the Y-12 fire department had been requested to evaluate the area. CNS acknowledged that personnel not immediately evacuating and instead proceeding to secure the material was a gap for this event. CNS has a corrective action to evaluate the exit protocol in response to a CAM alarm.

The resident inspectors previously reported on a deficiency regarding building evacuations during a 2019 operational emergency at Building 9212 (see 6/21/19 report). During the 2019 event, the Y-12 protective force directed the evacuation announcement to say an “orderly evacuation” in an effort to avoid additional special nuclear material inventory activities afterwards. While the recent event did not involve an evacuation order from the Y-12 Operations Center, it does highlight how competing interests can result in personnel prioritizing actions that support the resumption of operations during an abnormal event.

**Nuclear Criticality Safety:** Multidisciplinary CNS teams have completed walkdowns for most areas in accordance with the low equity material review plan (see 4/9/21 report). A resident inspector observed portions of the walkdowns in Buildings 9204-2E and 9212. During those observations, the walkdown teams responded appropriately to unknown items per the abnormal operating procedure for an abnormal condition involving fissile material. Dozens of items have been placed under nuclear criticality safety administrative control awaiting further evaluation. A resident inspector also walked down areas of Building 9215 and saw several items that the walkdown teams had placed under administrative control throughout the facility. The scope of the CNS low equity material review plan was to identify items that may contain fissile material outside of an approved storage location. A follow-up effort will perform quantitative non-destructive assay measurements to inform the disposition process for the items that are currently under administrative control. The quantitative measurements will confirm if the items contain small amounts of fissile material as the CNS plan assumes.

**Safety Basis:** At the request of NPO, CNS used their potential inadequacy in the safety analysis (PISA) process to evaluate the discovery of an ES-3100 shipping package that was not loaded within the limits of its certificate of compliance (see 5/7/21 report). CNS determined that the event was not a PISA, however CNS initially did not use their formal PISA evaluation process until NPO requested them to do so.