

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 21, 2023

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Frank Harshman and Clinton Jones, Resident Inspectors  
**SUBJECT:** Oak Ridge Activity Report for Week Ending April 21, 2023

**Building 9204-02:** On April 17<sup>th</sup>, chemical operators were performing lithium machine dust processing activities. This process moves machine dust from a canister to a PVC bag for pressing operations. Once the canister was emptied, the bag was pulled away from the dust dump station for samples of lithium to be added to the dust for pressing. The procedure for this process allows these steps as an approved disposition method for samples. The chemical operator noted the generation of heat and flame and applied carbon nanospheres (coke) to extinguish the reaction. The production supervisor called 911 and the fire department responded. The shift manager directed the relocation of workers on the 2<sup>nd</sup> and 3<sup>rd</sup> floor to allow for emergency response. The Operations Center then announced over the emergency notification system (ENS) for all workers in 9204-02 to relocate to assembly station 6, which is not a normal assembly station for Building 9204-02 workers. Due to some initial confusion on where assembly station 6 was located, some personnel went to the wrong assembly station. If this event had involved a release of material, the workers could have been harmed due to not knowing where assembly station 6 was located.

On April 19, another fire event occurred, originating in the public address system equipment room. The cause is currently unknown, but there were two electrical power strips in the melted debris with a large number of plugs installed that were previously plugged into the only accessible outlet on the wall below the charred panels. One of those power strips was greater than 50 percent melted. Upon the discovery of a conduit with ENS labeling that penetrated the wall with heavy fire damage, the Building 9204-02E shift manager entered a limiting condition for operation (LCO) due to a potential partial loss of annunciation in the criticality accident alarm system (CAAS). The CNS CAAS system engineer determined there was no damage to the ENS system and concurred on an operability determination to exit the LCO.

**Building 9995:** An analytical chemistry organization (ACO) technician was processing reactive metal waste and unused samples when a fire ignited in a fume hood. The process involved handling liquid waste and moving metal samples from plastic tubes into a glass jar. The ACO technician accidentally dropped small pieces of reactive metal onto a partially wetted shop towel that was in the hood due to the previous liquid waste activities. The metal energetically reacted, and the shop towel caught fire. The ACO technician attempted to smother the fire with additional shop towels retrieved from a supply drawer underneath the hood. This action knocked over the glass jar that material was being collected in, igniting additional material. The ACO technician continued to attempt to extinguish the fire with additional shop towels. Since the ACO technician was working alone, he had to leave the area to report the fire. The shift manager arrived at the location, determined the fire was extinguished and called 911 to report the fire and its status. CNS declared an occurrence for a fire in a nuclear facility, although no nuclear material was involved in the incident. The resident inspectors, NPO facility representative, and building management walked the area down. During the walk down it was noted that there was no approved extinguishing agent for metal in the area.