

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 3, 2023

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Frank Harshman and Clinton Jones, Resident Inspectors  
**SUBJECT:** Oak Ridge Activity Report for Week Ending March 3, 2023

**Building 9215:** On February 14<sup>th</sup>, special nuclear material organization (SNMO) material handlers were processing uranium chip samples for disposition. This activity involves removing chip samples from small sample bottles and consolidating them into larger containers before finally transferring those contents into chip dollies for further disposition. The material handling crew had successfully loaded one batch of chip samples into a hospital can and transferred it to a chip dolly without incident. As a material handler began pouring a second batch of chips into a hospital can, the chips began to react, changing color to an orange glow in the can. No smoke or flames were observed by the material handlers or SNMO crew that were in the vicinity. The material handler transferring the chips requested coke (carbon nanospheres) from the other material handler in the area, applied the coke to the chips in the hospital can, and extinguished the glow. The shift manager was notified of the situation by the SNMO supervisor. The shift manager notified the fire department chief who was in his office at the time for an unrelated matter. The fire department was dispatched to Building 9215 where they took temperature readings on the interior and exterior of the hospital can. The temperature readings showed an ambient temperature of 78 degrees Fahrenheit. The fire department determined the scene was safe and secure and terminated their response.

**Building 9212:** The resident inspectors continued to review the actions of CNS and NPO following the pyrophoric event that resulted in the declaration of a site area emergency on February 22 (see 2/24/23 report). CNS removed and dispositioned the briquette that caused the issue along with the additional enriched uranium chips from the same originating container. The resident inspectors reviewed the procedure, job hazard analysis, and personal protective equipment that was required to perform the recovery. The briquettes were transferred utilizing a purpose-built procedure and then dispositioned via the normal briquette processing path (i.e., controlled oxidation). The resident inspectors observed multiple sessions of CNS's event investigation meetings. Several gaps have been identified in the areas of communications, logistics, building emergency plans, and training. For example, emergency notification announcement systems were not audible in all areas due to known issues with those systems. CNS was not able to adequately communicate details of the event scene to the operations center. The lack of initial information regarding the quantity of material led CNS to assume a conservative, worst case event, complicating the response. The hours-long event highlighted gaps in the logistical response when CNS was unable to provide support, such as water and sunscreen, to evacuated personal due to a security lockdown that was the result of the evacuation. There was also uncertainty regarding the conduct of the evacuation among facility, emergency response, and the protective force personnel due to the different evacuation terminology that each organization uses. The field monitoring team was not activated because of an incorrect code being selected in the paging system. CNS is continuing the event investigation process by performing a critique of the fact finding results and following up with a casual analysis of the event. CNS emergency management will also create a separate after-action report focused on the emergency response organization actions during the event.