

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 16, 2023

**TO:** Katherine R. Herrera, Acting Technical Director  
**FROM:** Frank Harshman and Clinton Jones, Resident Inspectors  
**SUBJECT:** Oak Ridge Activity Report for Week Ending June 16, 2023

**Building 9212:** CNS completed the removal and shipment of the final hydrogen fluoride (HF) cylinder from the site as part of the shutdown of the oxide conversion facility (OCF) (see 01/27/2023 and 05/19/2023 reports). HF was a significant contributor to the overall chemical hazard of the building and its removal will result in a reduction in risk associated with OCF. CNS also plans to air gap the hydrogen supply to the facility during the planned summer utility outage to further reduce risk to the building. After the removal of hydrogen to the facility, the dock containing the HF equipment will be placed in cold standby mode, and the remainder of OCF will be placed in warm standby mode as defined in the facility technical safety requirements document.

**Building 9202:** A CNS weld booth technician was fabricating a stainless-steel base plate utilizing a plasma cutter and grinder in a welding enclosure within Building 9202. The technician completed the plasma cutting and grinding and spent the next 10 minutes completing post-job housekeeping by vacuuming metal debris from the floor and worktable. After cleaning the area, the technician departed and returned to their office. About 10 minutes later, a second worker near the weld booth heard a loud noise from within the welding enclosure. The second worker investigated the source of the noise and, upon opening the doors to the weld booth, discovered open flames. The worker then yelled "FIRE", closed the weld booth doors, and notified others in the area of the situation. Upon hearing of the fire, the first technician returned with a fire extinguisher and applied it to the fire. Simultaneous with the firefighting actions, the second worker that had discovered the fire called 911 and informed their supervisor. While reporting to the fire department details such as the location and type of the fire, the fire was extinguished. Workers then opened a large bay door that led to an outside dock area to ventilate smoke and waited on the external dock for further guidance. The fire department responded to the site and confirmed the fire was out. The fire department then released the building back to the facility operations management once they completed safety and security walkdowns of the facility. CNS paused all hot work in the building pending an event investigation and development of a path forward. CNS filed an occurrence report for a fire that disrupts normal operations in the facility for more than four hours. The resident inspectors, an NPO facility representative, and CNS management performed a walkdown of the area as part of the initial investigation of the incident. Field observations revealed that a plastic cart had caught fire. The cart lost its structural integrity and the items stacked on the cart fell to the ground; this created the noise that was heard by the workers that led to the discovery of the fire. The fire was contained within the weld booth and did not get large enough or generate sufficient heat to activate the building sprinkler system. CNS recently completed a housekeeping walkdown of the weld booth but failed to recognize the potential of the plastic cart and other plastic items stored in the area to ignite from welding operations. In addition, the fixed weld shop permit did not allow the cart to be stored in the weld booth and the permit had expired the week prior. The resident inspectors attended the event investigation and critique of the event. CNS identified several actions including the need for formal tracking of fixed weld shop permit renewals, additional training for weld booth technicians, and corrections to current weld booth deficiencies.