

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 24, 2017

TO: Steven Stokes, Technical Director
FROM: Jennifer Meszaros and Rory Rauch, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending April 21, 2017

Staff members Z. Beauvais and R. Oberreuter were onsite to observe a site emergency management exercise and augment resident inspector coverage.

Building 3019: This month, the acting OREM Manager approved revisions to the Building 3019 Documented Safety Analysis (DSA) and Technical Safety Requirements (TSR) that, once implemented, will authorize Isotek to move and relocate cylindrical vessels containing uranium hexafluoride (enriched in U-233) within the facility. Movement and relocation of these vessels presents a new fire hazard that is not analyzed in the currently implemented version of the DSA; as such, the revision credits a shielded carrier as a safety-significant passive design feature. Additionally, the DSA identifies three new specific administrative controls that will require operations personnel to transfer vessels using the shielded carrier and control carrier height and combustible materials during transfer activities. This week, the resident inspectors observed movement of Consolidated Edison Uranium Solidification Program (CEUSP) canisters (see 12/21/12 report) in Building 3019 and discussed future implementation of the new controls with the OREM facility representative and the acting Building 3019 Facility Manager. The resident inspectors did not identify any issues during their observation of CEUSP canister movements, but will continue to follow implementation of the new facility DSA/TSR and associated control set. Isotek has tentatively planned an implementation verification review for June 2017.

Emergency Preparedness and Response: This week, the resident inspectors and a DNFSB headquarters staff member observed an emergency management exercise involving a simulated criticality accident in the Highly Enriched Uranium Materials Facility (HEUMF). The exercise was full-scale for site emergency response organizations, including activation of the technical support center (TSC) and the emergency operations center (EOC). The DNFSB observers identified no significant issues with the response, but did observe that transportation of potentially irradiated and/or contaminated personnel from the assembly station was delayed somewhat as emergency responders attempted to establish full accountability of all evacuated personnel. The delay in establishing accountability temporarily caused confusion at the TSC and EOC regarding the number of impacted personnel, however an accurate accounting was completed in a reasonable amount of time. One factor that complicated response at the assembly station was the presence of only one radiological control technician on scene for the first half hour of the emergency response.

Fire Protection/Conduct of Operations: This week, the resident inspectors observed a monthly inspection of a non-credited dry pipe sprinkler system at HEUMF. The procedure for the evolution was a generic surveillance procedure that can be applied to any non-credited dry pipe system at Y-12. The resident inspectors found that the generic nature of the procedure hindered its usability and contributed to procedure execution issues. For example, the system alignment section of the procedure relied upon fire department personnel knowledge of the individual system's design as it only specified the need to verify the position of categories of valves (e.g., "water control valve(s)"). Further, the procedure's format only contained a single box to mark completion of the alignment verification for each category, not individual valves. During this activity, fire department personnel marked the system alignment section complete and subsequently realized they missed the verification of one of the valves within a category. The resident inspectors communicated specific observations to Y-12 Emergency Services management.