

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 23, 2019

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Matthew Duncan and Brandon Weathers, Resident Inspectors  
**SUBJECT:** Oak Ridge Activity Report for Week Ending August 23, 2019

**DNFSB Staff Activity:** R. Oberreuter visited Oak Ridge to provide resident inspector coverage. While onsite he observed a Continued Safe Operability Oversight Team walk-down of Building 9212; walked down the Uranium Processing Facility construction site; and observed planned, ongoing, and completed work scope of the Nuclear Facilities Electrical Modernization project in Buildings 9204-2E and 9215.

**Direct Chip Melt Project:** NPO concurred with CNS's determination that the bottom load furnace design for the direct chip melt project is not a major modification (see 5/17/19 report). CNS's major modification determination relied on the bottom load furnace design being similar to the operation of melting depleted uranium in the horizontal load furnace that is used by the development organization. Additionally, CNS's evaluation cited experience with melting enriched uranium in Building 9212 and the use of gloveboxes in both Building 9212 and the electrorefining (ER) project planned for Building 9215. In NPO's response to the fiscal year 2019 third quarter startup notification report, NPO requested a notification from CNS if the ER project experiences delays that result in either of the direct chip melt projects' readiness activities preceding the ER project's readiness activities. The ER project is planned to be the first enriched uranium furnace operation in Building 9215 and will undergo a federal readiness assessment. Contractor checklist readiness assessments are planned for the direct chip melt projects.

**Nuclear Criticality Safety (NCS)/NPO Oversight:** In the third quarter of fiscal year 2019, NPO conducted an assessment of the effectiveness of NCS and conduct of operations training for CNS Production Operations personnel. NPO issued the assessment report to CNS last month. The NPO assessment team found that CNS training in these two areas is not fully effective. The assessment report included eleven observations, including: CNS has not made improvements to the training program to address concerns related to uranium accumulation issues; supervisor training in fundamental areas like NCS and conduct of operations is not of increased depth compared to operators; and multiple overlapping Issues Management System entries related to various evaluations of uranium accumulation events made it difficult to track items to closure. NPO captured the results of the assessment as an Emerging Item of Interest (EII). The NPO procedure governing its oversight process describes EIIs as an initial notification to the contractor of a major concern. As noted in the assessment report, CNS has several ongoing initiatives that have the potential to address the identified observations, however many initiatives remain in the early stages. NPO informed CNS in the cover letter transmitting the assessment report that it could upgrade the EII to a higher significance category if progress towards resolving the identified issues is insufficient.

Last week, NPO notified CNS of its plans to complete an integrated assessment by the end of September of the effectiveness and sustainability of CNS's corrective actions in response to uranium accumulation events. The integrated assessment team will include representatives from the NNSA Criticality Safety Support Group in addition to NPO personnel.