

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 25, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: Matthew Duncan and Brandon Weathers, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending December 25, 2020

A summary of key developments at Oak Ridge during 2020.

Y-12 Projects: CNS deactivated 17 systems in Building 9206 and isolated seven systems in Building 9212 (see 10/2/20 and 10/9/20 reports). A storage cage for the direct chip melt project was installed in Building 9215, which had an additional benefit of removing unneeded equipment in that area. NNSA approved the Building 9212 calciner Critical Decision-2/3 package (see 6/5/20 report). CNS produced, for the first time, production-size pieces of uranium with the electrorefining demonstration system (see 10/16/20 report). However, CNS had project schedule delays for the Building 9212 calciner, direct chip melt, electrorefining, and several other projects.

The UPF project completed the installation of structural steel for the salvage and accountability building. This is the second major UPF facility to complete installation of structural steel.

Y-12 Nuclear Criticality Safety: CNS continued work towards completing existing actions to improve the nuclear criticality safety program. As the number and scope of these corrective and improvement actions have grown over the past several years, it became apparent to CNS, NPO, and external review parties that effective management of those actions was a challenge. CNS took several actions to address this issue that included creating a new position for criticality safety management and integration that reports directly to the Y-12 site manager, development of an integrated schedule, and monthly meetings with NPO to discuss progress on open actions.

CNS also made progress in improving the effectiveness of the nuclear criticality safety committee. The committee completed several committee-sponsored activities such as a review of the large geometry exclusion area program, a review of the uranium holdup survey program, a common cause analysis of the 2017-2018 uranium accumulation events, and development of a nuclear criticality safety program health tool (see 1/17/20, 3/13/20, 5/15/20, and 5/29/20 reports).

CNS completed out-of-service equipment walkdowns focused on potential areas of uranium accumulation in Buildings 9720-5, 9204-2E, and 9215. Notably, CNS decided to incorporate plans for addressing the walkdown results into the Extended Life Program for Buildings 9204-2E and 9215 (see 11/27/20 report).

CNS increased in the number of qualified criticality safety officers from five to nine.

Oak Ridge Environmental Management: OREM approved the preliminary documented safety analysis for the Transuranic Waste Processing Center oxidation campaign (see 11/20/20 report). Isotek continued processing canisters for the Building 2026 Oak Ridge Oxide Processing campaign and made progress on construction activities to support the upcoming Initial Processing Campaign (see 6/28/19 report).