

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 11, 2018

TO: Steven A. Stokes, Technical Director
FROM: R. Tontodonato and B. Weathers, Acting Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending May 11, 2018

R. Tontodonato was on site to augment resident inspector activities and attend a Senior Management Team All Site Meeting hosted by the NNSA Office of Stockpile Management (NA-12).

Building 9212/Oxide Conversion Facility (OCF): Last week, Enriched Uranium Operations (EUO) personnel successfully completed an OCF production run. OCF operations have been on hold for most of fiscal year 2018, due to maintenance issues. The suspension of OCF activities stemmed from the October 2017 discovery of a pinhole leak in a credited hydrogen fluoride isolation valve (see 10/27/17 report). When initiating this production run during the week of April 2, 2018, a high pressure switch alarmed while attempting to operate the hydrofluorination fluid bed (HFB). EUO operators correctly responded to the alarm per their procedures. As a result of the high pressure alarm, EUO operators paused the operations then drained and purged the hydrogen fluoride system. Last week, the HFB was successfully operated to complete the OCF production run, producing UF₄ for the first time in fiscal year 2018.

This week, the acting resident inspector observed a second OCF production run. No problems have been encountered during this run.

Highly Enriched Uranium Materials Facility (HEUMF): CNS is conducting an extent of condition review (EOC) of material stored in HEUMF as a result of discovering material forms not currently analyzed in the HEUMF documented safety analysis (DSA) (see 5/4/18, 4/27/18, 4/20/18, 3/16/18, and 3/2/18 reports). While conducting the EOC review, CNS discovered a group of material stored under the wrong material identification code. The initial investigation of this material group indicated the presence of a constituent that is prohibited in long term storage and is not identified in the DSA. Upon further investigation, CNS determined that the packages had been previously processed to remove the prohibited constituents without updating the material description. As a result of not containing the prohibited constituent, this material group is compliant with the HEUMF DSA and storage requirements. Other material forms identified during the EOC remain non-compliant. CNS plans to prepare a second justification for continued operation (JCO) to address the remaining non-compliant materials that were not included in the first JCO (see 4/27/18 report).

In response to the multiple discoveries of unanalyzed material in HEUMF, CNS issued a standing order that establishes additional review requirements for receipt of fissile material containers into the HEUMF facility. The standing order adds facility safety and nuclear criticality safety engineers as review team members for fissile material transfers. CNS expects the expanded review team to help prevent material that is not analyzed in the HEUMF safety basis from being received into the facility.