

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 1, 2022

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Brandon Weathers, Resident Inspector  
**SUBJECT:** Oak Ridge Activity Report for Week Ending April 1, 2022

**Nuclear Criticality Safety:** In January 2020, a CNS independent assessment of the Large Geometry Exclusion Area (LGEA) program found that the LGEA program had been compromised due to non-rigorous implementation, non-compliant configuration management, and ineffective program oversight (see 1/17/20 and 3/13/20 reports). Since then, CNS undertook an action to improve the LGEA program by overhauling and replacing the existing LGEA program with an expanded program that is named the Uranium Solution Control Program (USCP). CNS made the USCP effective this week. The USCP is credited to ensure fissile solution cannot accumulate to an unsafe depth or unsafe volume in large geometry equipment or containers and to ensure that floors provide safe containment of solution in the event of a leak or overflow. The USCP has new guidance that applies to walls, insulation, and surveillances. The USCP also created a new area outside of a LGEA that is designated as a LGEA Buffer Area. The primary distinction between LGEAs and LGEA Buffer Areas is that LGEAs have the risk of overhead uranium solution leaks, and LGEA Buffer Areas only have the risk of uranium solution on the floor migrating to those areas.

**Building 9212:** CNS executed a work package to disassemble a precipitator circulation pump for the Building 9212 process where production personnel found an off-color material (see 2/18/22 report). During that activity, CNS discovered that the pump's graphite bearings were disintegrating and likely causing the contamination of the product material. CNS engineering personnel are evaluating different pump options that should eliminate this issue.

**Transuranic Waste Processing Center (TWPC):** OREM issued a Safety Evaluation Report for a revision to the TWPC Documented Safety Analysis and Technical Safety Requirements (TSRs). This revision served as the annual update of the TWPC Documented Safety Analysis. North Wind Solutions made page changes associated with negative Unreviewed Safety Question Determinations (USQDs). Three of the negative USQDs required modifications to the TSRs. The first of those modifications was due to the removal of a gamma scanning system used to perform non-destructive assay measurements of waste drums. That system was no longer needed to support the TWPC mission. The second modification was due to North Wind Solutions adding a portable building to the TWPC site. This building was not used to support waste processing and did not contain any hazardous or radioactive materials. The third modification was a clarification to the TSRs bases for the description of indicator lights on an alarm panel.

OREM did not issue any conditions of approval or directed changes with this revision, but a prior condition of approval remains open. The prior condition of approval prohibits activities involving oxide waste processing until a DOE readiness assessment is completed that evaluates implementation of the safety basis controls and requirements associated with oxide waste processing. The readiness assessment has not been scheduled due to OREM directing North Wind Solutions to pause the safety basis implementation for processing the oxide waste and to prioritize waste processing activities that do not require the new safety basis changes.