

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 26, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: Matthew Duncan and Brandon Weathers, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending February 26, 2021

Federal Oversight: NPO staff completed a reactive assessment of nuclear criticality safety non-compliances and corrective actions associated with the large geometry exclusion area (LGEA) program (see 11/6/20 report). The assessment team determined that CNS corrective actions have not been adequate to prevent the introduction of unfavorable geometry items into LGEAs. CNS has been working to address issues with implementing and maintaining the LGEA program in response to a 2019 CNS independent assessment of the LGEA program and continued non-compliances over the past year. NPO noted that many corrective actions were not implemented at the conclusion of the assessment and that other recent nuclear criticality safety non-compliances have highlighted communication and coordination issues between production and maintenance personnel. The assessment team concluded that an NPO-generated issue was appropriate based on what the team found, but did not create an issue at this time because CNS has recognized the same issue and is working on corrective actions. In addition, NPO plans to reassess these aspects of the LGEA program once CNS has completed the corrective actions.

Nuclear Criticality Safety: Over the past month, CNS personnel identified several situations that called for further evaluation by nuclear criticality safety engineers.

CNS personnel representing nuclear criticality safety, operations, and process engineering investigated several bagged waste items during walk downs in Building 9212. Two of the bagged items (a pump and a vacuum) resulted in the group establishing administrative control of the items. Nuclear criticality safety engineers provided direction to post the items as deficient and for the items to undergo quantitative non-destructive assay scans to determine how to disposition them. Personnel also questioned a hose and attachments for a portable dry vacuum cleaner. The operations personnel told the group that the hose and attachments may have been used on the holden gas furnace ductwork modification project (see 12/18/20 report). Since the exterior of the hose appeared dirty in some locations, the group conservatively established administrative control of the area. The nuclear criticality safety engineers provided guidance to bag the equipment and move it to a fissile material storage area.

A nuclear criticality safety engineer discovered an out-of-service portable dry vacuum in Building 9212 that warranted further investigation. The vacuum had an out-of-service tag, a nuclear criticality safety posting, and a label indicating that it was contaminated. However, the engineer noticed that the vacuum did not appear to have the same cart and receiver design as vacuums that have been approved by nuclear criticality safety engineers. Since the vacuum could not be confirmed to meet the required passive design features, the engineer established administrative control of the area and followed the appropriate abnormal response procedure.

Building 9212 operators noticed a “phase of dust” in a column that supplies an evaporator and notified their supervisor and the shift manager. The shift manager reached out to nuclear criticality safety personnel and placed the area under administrative control.