

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 10, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: Matthew Duncan and Brandon Weathers, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending July 10, 2020

Nuclear Criticality Safety: Non-destructive assay personnel reported that the two bags of waste products found in a cabinet of Building 9212 contain only small, gram quantities of fissile material (see 6/19/20 report). The bags will remain in an approved fissile storage array while nuclear criticality safety personnel develop a disposition strategy for them.

On Tuesday, the nuclear criticality safety committee held a meeting to discuss development of the fiscal year 2021 baseline staffing plan. Historically, most of these resources have been in the mission engineering organization (nuclear criticality safety engineers) and the production operations organization (criticality safety officers). CNS plans to transfer some of the on-the-job training activities to the organizational development and training organization and hire several trainers, preferably certified operators, to support nuclear criticality safety related training.

Separately, the nuclear criticality safety corrective action review board closed several deficiencies that have been reported in previous resident inspector weekly reports. CNS closed the deficiency for out-of-service equipment in Building 9212 that lacked a criticality safety technical basis for the amount of uranium holdup that was contained or anticipated to be within that equipment (see 10/25/19 report). This deficiency covered multiple equipment systems. In January, CNS issued a report that documented additional analysis for four of the systems (see 1/31/20 report). Since then, CNS re-established legacy nuclear criticality safety documentation for two other systems in the deficiency. CNS also performed non-destructive assay measurements of the remaining two systems. CNS reassigned those systems to a minor non-compliance since the measurements indicated that the two systems contain less than 700g U-235.

CNS closed the deficiency related to an event where an operator inadvertently placed a second 4-liter beaker into a dissolution workstation (see 10/18/19 report). Typically, two operators perform this operation, but only one operator was performing the operation on the day that the event occurred. CNS revised the operating procedure to require that two operators are available to perform the beaker leaching activities.

CNS also closed a deficiency for storing loaded sample bottles in an area that is only approved for storage of empty fissile containers (see 3/6/20 report). CNS has completed some of the corrective actions for this event that included replacing a posting that had fallen, briefing operators, and identifying improvements to the storage options in this area. CNS determined in the causal analysis that a contributing factor in this event was that one of the postings for the storage rack had fallen. At the March fact finding meeting, the resident inspectors inquired about how CNS ensures these postings are maintained in the appropriate locations. This week, the resident inspectors reviewed the actions for this event in the issues management system (IMS) and noted that a fact finding action for nuclear criticality safety personnel to determine if there are mechanisms to ensure that empty container storage postings are in place was not carried over to IMS. Recently, CNS investigated a posting related event in June where a confined space posting was missing and subsequent inspections found several other areas that lacked adequate postings (see 6/26/20 report).