DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 9, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: Matthew Duncan and Brandon Weathers, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending August 9, 2019

DNFSB Staff Activity: A staff review team had a teleconference with DOE and contractor personnel to discuss implementation of the processes for handling potential inadequacies of the documented safety analysis and unreviewed safety question process at the Transuranic Waste Processing Facility.

Building 9212: The fact finding that was conducted for the hydraulic fluid leak in the casting furnace enclosure was reconvened this week (see 7/26/19 report). In this session, additional information was gathered from pipefitters who most recently performed work on the hydraulic cylinder that leaked. It is now assumed that the work performed by the pipefitters did not directly lead to the leak. The cylinder that leaked was over 40 years old and had been noted to have a buildup of dried hydraulic fluid on it. This cylinder was replaced as a result of the leak. The rest of the hydraulic system is of a similar age. An action was assigned to the engineering organization to evaluate updating the equipment and/or replacing the other hydraulic cylinders. Since this event is a nuclear criticality safety deficiency, a causal analysis is also being performed per the recent standing order (see 8/2/19 report).

Building 9212: In response to the metal fines that were found during glovebox operations, a search was performed to locate other suspect containers that originated in the Building 9212 Holden Gas Furnace or chip burners that do not indicate that the oxide was screened to remove metal fines (see 8/2/19 report). Several containers meeting this criterion have been identified in the Highly Enriched Uranium Materials Facility (HEUMF). The criticality safety evaluation for this container type does not analyze containers with metal and oxide. CNS nuclear criticality safety engineers have determined that the combination of metal and oxide that could be loaded into this container is bounded by other uranium material forms evaluated in the criticality safety evaluation. A minor non-compliance was issued. Corrective actions include maintaining administrative control of the suspect containers until they can be transferred out of HEUMF or the criticality safety evaluation is revised to approve the mixed loading of oxide and metal. Movement out of HEUMF also cannot be performed until this container loading is approved for the Special Nuclear Material Vehicle.

Building 9212: CNS entered the new information process after discovering that the amount of acetic acid solutions slightly exceeded the maximum anticipated quantity analyzed in the hazardous material identification document for Building 9212. This was a minor problem and was corrected quickly. Unlike other similar events over the past year (see 1/18/19 and 11/9/18 reports), this did not violate the hazardous materials inventory control specific administrative control. CNS did not declare a potential inadequacy of the documented safety analysis because this discrepant as-found condition was corrected within three business days after discovery.