

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 1, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: Matthew Duncan and Brandon Weathers, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending February 1, 2019

Building 9204-2E: Last October, the integrity of a glovebox in Building 9204-2E became temporarily compromised due to a degraded mechanical seal. The Building 9204-2E operations manager issued a standing order to allow continued production operations with compensatory measures (see 10/19/18 report). On January 17, the seal plates again separated slightly, temporarily compromising glovebox integrity. Operations personnel entered the abnormal operating procedure and began troubleshooting. CNS convened an operational safety board meeting to evaluate the adequacy of the standing order. The standing order now requires the speed of the first machine movement of the day be slow enough to ensure no breach occurs throughout the entire length of travel prior to ramping up to normal operation speed. All of the other precautions remain in effect and operations quickly resumed. Engineering personnel have been working on a new seal design but it will likely not be installed until late this year. In the interim, use of a lubricant is being considered. Given the extended length of time the standing order will likely need to remain in place, CNS is considering whether the standing order is the most appropriate mechanism to codify these additional procedural requirements.

Building 9212: In January, during enriched uranium casting operations in Building 9212, a problem with the mold resulted in much of the molten enriched uranium spilling out of the mold and into the spill ring. Procedures refer to this condition as a mis-pour. Operators entered the abnormal castings abnormal operating procedure, contacted nuclear criticality safety personnel, and established a 15-foot administrative boundary. Production personnel developed a plan to process the four abnormally-shaped metal items. The nuclear criticality safety engineer approved the actions, operators successfully size reduced and processed the metal items, and the administrative control was rescinded. The nuclear criticality safety engineer considered this event a deficiency. Casting mis-pours happen occasionally. A similar event occurred in November.

Transuranic Waste Processing Center: Last week, operations personnel confirmed the presence of a legacy 95 percent efficient ASHRAE filter located in the box breakdown area at the Transuranic Waste Processing Center. The used filter had been staged on the floor for a significant period of time. A survey indicated there was some radioactive material on the filter. One of the specific administrative controls in the technical safety requirements for the Transuranic Waste Processing Center is inventory control. This is one of several that maintain the accident analysis assumptions and initial conditions in the documented safety analysis. The inventory control specific administrative control limit is 100 plutonium equivalent curies in the glovebox and box breakdown area. In addition, there are various limits for nuclear criticality safety. While neither of these limits were close to being challenged by the discovery of the contaminated filter, the contractor is planning to report this occurrence as a management concern as the material on the filter was not being tracked and counted against the limits. The contractor initiated a work pause on taking additional waste into the box breakdown area and is evaluating how this might have occurred and potential corrective actions.