

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 28, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: Frank Harshman and Clinton Jones, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending June 28, 2024

Staff Activity: Mark Sautman, the Associate Technical Director for Field Operations (ATDFO), traveled to Oak Ridge this week. The ATDFO and Resident Inspectors (RI) performed walkdowns of Buildings 9204-2E, 9206, and the Uranium Processing Facility (UPF). In Building 9204-2E, the ATDFO and a RI observed glovebox machining operations, disassembly and inspection operations, and glovebox maintenance activities. In Building 9206, the ATDFO and RIs' walkdown focused on CNS's progress towards turnover of the facility to the Department of Energy Oak Ridge Office of Environmental Management for final disposition. Building 9206 was built in 1944 to enrich uranium through a wet chemistry process and is undergoing several activities to properly characterize the hazards of the facility before turnover. At UPF, the ATDFO with the RIs met with personnel from NNSA Y-12 Acquisition and Project Management Office (APMO) and CNS and received an update on the progress made towards completion of the facility, project oversight activities, and the obsolescence program. After the meeting the group conducted a walkdown of the Main Processing Building to observe ongoing construction activities. The ATDFO observed open piping which was not covered to prevent foreign material from entering the system during the walkdown. The ATDFO informed APMO of the observation, and the issue was subsequently corrected.

Criticality Accident Alarm System (CAAS): A RI observed the quarterly surveillance of the Area 5 CAAS, which includes the Building 9212, 9215, and 9995 CAAS systems. The quarterly surveillance consists of a detector response test using a radioactive source and several visual detector checks. The group performing the surveillance included a new member being trained on the procedure. The RI observed coaching of the trainee on the proper execution of the procedure and the use of place keeping.

Building 9212: CNS received approval from YFO to resume operations involving the wiped film evaporator (WFE) (see 5/3/2024 report). YFO approved an addendum to the Safety Evaluation Report based on CNS' submittal of a Justification for Continued Operation/Evaluation of the Safety of the Situation that contains two compensatory measures and one planned action. CNS identified compensatory measures designed to limit the formation of heavy organics in the secondary extraction process upstream of the WFE process and confirm the feed to the WFE does not contain heavy organics by sampling within the secondary extraction system at low settling points. After retrieving the samples, the feed is visually observed and miscibility tested for the presence of heavy organics. Another compensatory measure identified by CNS is to drain the secondary extraction components if they have not been operated in the previous 24 hours. CNS established this action to remove organic solution that may be present due to the evaporation of the diluent. YFO included a directed change to the sampling compensatory action that establishes minimum and maximum times for the samples to be taken after the system is filled. CNS plans to evaluate and make permanent changes, as necessary, to the secondary extraction and WFE controls credited by the safety basis to ensure they are adequate and bounding. The RI's plan to observe WFE operations as they are brought back online.