

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Steven Stokes, Technical Director
FROM: William Linzau and Rory Rauch, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending July 31, 2015

Staff members F. Bamdad, R. Jackson, and M. Wright were at Y-12 this week to conduct a review of the Conceptual Safety Design Report of the Uranium Processing Facility (UPF). R. Rauch was off site this week and R. Oberreuter was on site conducting observations of NPO oversight activities and augmenting site rep coverage.

Highly Enriched Uranium Materials Facility (HEUMF)/Fire Protection: In late April, during an activity to replace the jockey pump in the fire water distribution system, workers noted a build-up of corrosion products inside the adjacent sections of pipe (see 5/1/15 report). The jockey pump and associated piping are not part of the safety basis-credited portions of the system. CNS management directed that samples of this material be sent to the site's Analytical Laboratory for analysis and the lab confirmed the presence of microbiologically-influenced corrosion (MIC). During the construction of HEUMF, the entire pump house was procured as vendor-supplied equipment and initial testing of the equipment occurred at the vendor's facility. It is believed the MIC was introduced to the pump house piping during this initial testing. CNS management directed inspections of the interior of other HEUMF fire suppression system piping to verify that the corrosion was limited to piping in the pump house.

This week, the site rep observed CNS Maintenance and Engineering personnel as they inspected additional piping sections inside the main HEUMF building. The interior of five different pipe sections (one 4-inch pipe section and four 1-inch pipe sections in various parts of facility) were inspected and no MIC or other types of adverse corrosion were discovered. These results provide reasonable indication that MIC was isolated to the pump house piping and has not migrated through the rest of the fire suppression system piping. CNS maintenance personnel are preparing to replace the remainder of the corroded piping in the pump house and lessons learned on this issue have been provided to personnel on the UPF project to allow them to prevent a similar problem during construction of that facility.

Transuranic Waste Processing Center (TWPC): Late last week, TWPC waste operators were removing a heavy lead shielded container from a glovebox utilizing a plastic sleeve through the normal "bag-out" port. During the evolution, a slit was noticed in the sleeve and a radiological controls technician (RCT) assisted the operators in sealing the opening. Both the operators and RCT were wearing personal protective clothing including respirators. After the lead container was secured, the RCT performed radiological surveys of the crew and discovered contamination on the operator's protective clothing. After doffing the protective clothing, additional surveys revealed that the operator had alpha contamination on his company-issued clothing. No skin contamination was detected and nasal smears were below minimum detectable activity levels.

NPO Oversight/Critical Safety Evaluations (CSEs): In June, NPO completed a review of CNS Container and Material Handling (CMH) processes. Though NPO did not have any findings, it did recommend that CNS re-invigorate efforts to simplify the number of fissile containers and the numerous specific content limits used at Y-12. Last week, CNS submitted a comprehensive plan to improve CSEs for fissile containers and their handling and storage. The plan is divided into three phases and includes a high-level schedule of activities distributed over eight years.