

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 January 2, 2015

Continued Safe Operability Oversight Team (CSOOT): In early calendar year 2014, NNSA management made the decision to reduce the scope of the Uranium Processing Facility project, thereby extending the operational lifetimes of Buildings 9215 and 9204-2E into the late 2030s and 2040s, respectively. In its latest annual report, the CSOOT recommended that line management review the scope of previous Facility Risk Reviews (FRRs) for these facilities in light of these extended operational lifetimes (see 7/4/14 report).

The CSOOT recently briefed NPO management and the Uranium Program Manager on CNS's proposed approach for addressing this recommendation. The new approach represents a significant paradigm shift for Y-12's aging management program. Previous FRRs essentially served as stop-gap measures focused on identifying those critical, cost-effective actions that would allow the subject facilities to continue safe operations for a 10 to 15 year time frame. As such, many of the FRR recommendations called for additional funding for equipment repairs and critical spares, but did not attempt to change the "run-to-failure" approach that the site had used on its structures, systems, and components (SSCs) for decades. The new approach proposed by CNS would seek to transition from the FRR model to a life extension program that focuses on the cultivation of a robust proactive maintenance program containing elements of preventive and predictive maintenance. The CSOOT believes this approach best postures the site to address the uncertainties inherent in managing SSCs for several decades past their anticipated design life.

CNS is taking several key initial actions as part of the development of the life extension program. First, CNS plans to host a workshop, tentatively scheduled for February 2015, to allow representatives from the DOE complex, the United Kingdom's Atomic Weapons Establishment, and commercial industry to share nuclear aging management lessons learned. Second, CNS plans to mine the General Aging Lessons Learned report—an accepted standard in the nuclear power industry for addressing aging SSCs—for information that could be adapted to Y-12. This would include a determination of which SSCs should be repaired or refurbished such that they can be "baselined" for inclusion in a proactive maintenance program. Finally, within the next several months, CNS plans to complete an evaluation to determine whether those SSCs that do not meet modern nuclear safety requirements warrant modification or upgrade. These actions are expected to be completed next summer, at which time CNS plans to issue a report with a set of recommendations and corresponding implementation plan for the life extension program.

Nuclear Criticality Safety (NCS)/Conduct of Operations: Last week, while observing automated floor scrubber operations in Building 9215, an NCS engineer noted a posting on the floor scrubber that contained an NCS requirement to inspect the floor scrubber recovery tanks for solids accumulation and rinse the tanks after each use. The NCS engineer asked the operator how this task was performed and the operator acknowledged that he had never performed it nor did he know how to. The operator removed the reservoir cover and observed a buildup of solids, at which point the operator and NCS engineer notified the shop floor supervisor, who established a 15 foot standoff and notified the shift manager in accordance with procedures. A non-destructive assay of the reservoir revealed small amounts of ²³⁵U holdup. The requirement in question is also included as a step in the automated floor scrubber operating procedure. During a fact-finding meeting for the event, CNS established several near-term actions including an evaluation of the adequacy of the training and procedures for floor scrubber operations. CNS also plans to hold a critique once several of these near-term actions have been completed.