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 September 11, 2015

Building 9212 Transition: As discussed in the July 17, 2015, site rep report, completion of the Electrorefining (ER) Project is a key milestone in NNSA's plan to transition enriched uranium operations from Building 9212 by 2025. The ER Project will implement a metal purification capability that replaces the analogous capability currently housed in Building 9212. Late last week, the Uranium Program Manager approved Critical Decision (CD)-1, Alternative Selection and Cost Range, and CD-3A, Long Lead Procurement, for the ER Project. The approved cost range is $58.6 million to $76.7 million with a CD-4, Start of Operations or Project Completion, approval date range between the first quarter and third quarter of fiscal year 2021. Prior to CD-1/3A approval, NPO issued the safety validation report (SVR) approving the safety design strategy and supporting preliminary safety basis documentation for the ER Project. The SVR contains no conditions of approval. The planned location for the ER process is Building 9998, a part of the 9215 Complex. Many of the existing facility-level controls (e.g., facility structure, fire suppression system) are credited for the events postulated in the ER Project's preliminary safety basis documentation. At this time, the only additional safety basis control specific to the ER process is a specific administrative control to verify that ER process materials meet certain material acceptance criteria prior to use. ER preliminary safety basis documentation also identifies several design features and administrative controls to protect against inadvertent nuclear criticality.

Highly Enriched Uranium (HEU) Materials Facility (HEUMF): This week, CNS completed a readiness assessment (RA) for startup of canned subassembly (CSA) re-containerization operations in HEUMF. Currently, CSA re-containerization, which involves transferring CSAs from approved offsite shipping containers to approved onsite shipping containers, is only authorized in Building 9204-2E. Establishing this capability in HEUMF will reduce the number of CSAs in inventory at Building 9204-2E and completes one of the key near-term material-at-risk reduction measures identified in the Y-12 HEU Mission Strategy (see 2/6/15 report).

The site reps observed a demonstration for the CNS RA. The RA team identified no findings. The site reps identified no concerns with the ability of the work crew to conduct CSA re-containerization operations in HEUMF. However, the site reps communicated a general concern to CNS Production management and the CNS Y-12 Readiness Assurance Department Manager regarding the Y-12 approach for conducting RA demonstrations. Specifically, line management may be unnecessarily heightening the formality of the work execution methodology during the RA demonstration in order to aid the RA team members in following the applicable procedure. This creates the potential for the line management team to demonstrate an operation in a manner that is not representative of expected work performance and could obscure the RA team's ability to assess the proficiency of the work crew. In the case of the demonstration for the re-containerization RA, the supervisor read each step of the procedure out loud to the work crew before it was performed. Normally, the steps in the procedure for CSA re-containerization operations would be performed from memory or referenced, as needed, a methodology that is compliant with the "Reference Use" categorization of the procedure. This topic also arose during another recent RA. The site reps requested that Production management consider working with Y-12 Readiness Assurance Department personnel to establish an approach to conducting RA demonstrations that better balances the fidelity of the demonstration and the observer's ability to follow the procedure.