

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Timothy Dwyer, Technical Director
FROM: Wayne Andrews and David Kupferer, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending May 13, 2011

Storage Operations. On May 11, 2011, NNSA approved the revised safety basis for Building 9720-5 (see the 4/22/11 report). In the Y-12 Site Office (YSO) Safety Evaluation Report (SER), YSO agrees that although the facility is no longer a Material Access Area (MAA) it continues to be a Hazard Category 2 nuclear facility since an inadvertent nuclear criticality is possible and the total amount of material at risk may exceed the uranium threshold quantities specified in DOE Standard 1027-92, *Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports*. The SER revision evaluated the change in facility mission (i.e., longer operating life) and changes to the storage and acceptance criteria as reflected in the revised safety basis. The mission extension resulted from the contractor's evaluation of the facility as the preferred option for non-MAA storage. As a result of this contractor evaluation, which YSO independently validated, B&W has committed to perform a documented programmatic and safety evaluation of continued storage of nuclear materials in Building 9720-5 five years after the material consolidation effort is completed. B&W also committed to overpack wooden crates used to store depleted uranium by FY2016 to reduce the combustible loading in the facility.

Building 9212 Facility Risk Review (FRR). In February, YSO chartered a team of subject matter experts representing YSO, B&W, and DOE Headquarters to re-evaluate, and update as appropriate, the conclusions and recommendations of the 2006 FRR (see the 3/4/11 and 2/18/11 reports). The FRR Follow-on Study team concluded that, in general, the 2006 FRR recommendations and conclusions remain appropriate and are being effectively executed to support operations in Building 9212 until equivalent capabilities are installed in UPF, which is currently expected by 2021. However, the team noted that it is unlikely that reliable, safe enriched uranium operations in Building 9212 can be maintained beyond 2021 without substantial refurbishments that would be very costly and impractical. Some noteworthy observations and recommendations identified by the team include the following:

- Efforts to reduce the material-at-risk in Building 9212 are ahead of schedule
- Production of purified metal during the past few years has been very limited due to the limited availability of process systems, particularly reduction and the oxide conversion facility
- Develop a pre-shutdown plan for Building 9212 that identifies actions that can be taken now to facilitate the eventual termination of operations and the transition from a programmatic mission to decontamination and decommissioning
- Evaluate installing a rotary calciner and replacing the process condensate storage system

Line Oversight Contractor Assurance System (LOCAS) Review. Last week the Board's staff observed the first NNSA affirmation review of a LOCAS performed in accordance with NNSA NAP-21, *Transformational Governance and Oversight*. Of the four objectives for line oversight and five objectives for the contractor assurance system, the review team considered only one contractor assurance system objective was not fully met. The contractor's lesson learned objective was only partially met because the lessons learned system lacked maturity. The review team noted was a common problem throughout the weapons complex.