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 5, 2014

Technical Procedures/Nuclear Criticality Safety (NCS): CNS management recently found that personnel had performed Reduction operations for more than a month with a procedure containing an on-the-spot (OTS) change that was approved without addressing all comments from the responsible NCS engineer. The process engineer initiated the OTS change request last June when operators were unable to continue Reduction operations after a material transfer door malfunctioned. Per the CNS technical procedure process, the process engineer sought concurrence from the NCS engineer on the proposed change. The NCS engineer concurred with the proposed change—to transfer material using a different door—but requested that the procedure incorporate an additional control. Due to a misunderstanding regarding whether the NCS engineer's concurrence was contingent on this request, the process engineer and responsible manager approved the change without incorporating the control into the procedure. The procedure has been placed on administrative hold. CNS plans to hold a critique to further evaluate the circumstances surrounding the issue next week.

Building 9212: This week, CNS determined that the error in the calculation supporting safe operation of the E-Wing Dry Vacuum systems (see 8/29/14 report) was a positive unreviewed safety question. Since the error affected an NCS control, CNS also reported the issue as a deficiency in the criticality safety analysis such that adequate controls were not in place for a credible criticality accident scenario. E-Wing Dry Vacuum system operations remain on hold pending the implementation of corrective actions.

CNS exited the pre-PISA process for the calculation error on the Tray Dissolver system after determining that the discrepancy in question (see 8/29/14 report) would not impact the credited safety function of the system's condensate isolation valve. Nonetheless, this error, combined with the calculation error cited above and other recently identified errors in calculations supporting the credited safety functions of the Building 9215 structure and the Oxide Dissolver condensate isolation system (see 6/13/14 and 8/22/14 reports) indicate that there could be broad issues in the quality of calculations supporting Y-12 Documented Safety Analyses. CNS recognizes this potential problem and is currently developing an extent-of-condition review plan.

Contractor Assurance System (CAS): CNS recently issued the CAS performance report for the third quarter of fiscal year 2014. Noteworthy issues and conclusions include the following:

- The Conduct of Maintenance Monitoring and Improvement Action Plan (see 10/18/13 report) actions have resulted in improved work planning performance through higher quality work packages and effective scheduling.
- The Safety Culture Monitoring Panel rated Y-12 as healthy in 9 of the 10 safety culture principles. The lone underperforming principle, work processes, was based on the number and significance of procedure adherence issues for the rating period.
- The Y-12 Site Manager indicated that an area of continuing concern is staffing limitations with quality assurance and safety basis personnel.
- The Feedback and Improvement Working Group recommended the implementation of a comprehensive preventive and predictive maintenance program that would maintain an acceptable level of risk such that Y-12's missions can be sustained until modernization is complete.