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 September 30, 2011

Conduct of Operations. Last week, as directed by NNSA Headquarters, YSO submitted its review of formality of operations deficiencies that have occurred this fiscal year (see the 7/29/11 report). YSO's review identified 30 events related to conduct of operations. YSO determined that 17 of these events could be attributed to weaknesses in procedure use and adherence and that the other 13 events could be attributed to weaknesses in one of the following areas: independent verification, equipment and system status, work control and authorization, and lockout/tagout execution. YSO attached B&W's Conduct of Operations Performance Improvement Plan (see the 9/23/11 report) to its submittal and noted that it has evaluated B&W's corrective actions and determined that the corrective actions will be instrumental in improving procedure use and adherence at Y-12. In its forwarding letter, YSO committed to both (a) increase its oversight activities in the areas of conduct of operations, training, and procedure development, use, and adherence and (b) coordinate an independent assessment of Y-12 conduct of operations to be performed by a group of industry-recognized subject matter experts during the next six months.

Criticality Safety. In 2007, DOE revised DOE Standard 3007, *Guidelines for Preparing Criticality Safety Evaluations at Department of Energy Nonreactor Nuclear Facilities*, to include detailed guidance regarding the process for incorporating criticality safety controls into the applicable Technical Safety Requirements (TSRs). B&W subsequently developed and implemented a Criticality Control Review (CCR) process that incorporated this guidance including a criterion that engineered controls (either active or passive) should be included in the TSRs if failure of the control could lead to a situation in which *a single change in process conditions* could result in a criticality accident. Implementation of this criterion is the primary reason B&W's CCR process identified 240 passive design features associated with criticality safety that needed to be included in the TSRs for Building 9212.

In June, B&W submitted a revision of its CCR process to YSO for approval. The modified process is intended to reduce the number of controls that are required to be incorporated into the TSRs. The most significant change to the criteria was revising the criterion described above to now state that design features should be included in the TSRs if failure of the control could potentially result in a criticality accident. This change was vetted by DOE Headquarters and was approved by YSO in August. B&W is developing a plan to implement the new criteria.

Building 9212 Operations. Last week, B&W performed its readiness assessment for restart of the dry vacuum system. The dry vacuum system is used by operators to collect uranium dust (both metal and oxide) generated during casting operations. The dry vacuum system was shut down in 2006 due to concerns regarding the potential level of uranium holdup that could collect in the vacuum producers (see the 6/2/06 and 6/9/06 reports). B&W addressed this concern by replacing the vacuum producers and installing high-efficiency particulate air (HEPA) filters upstream of the vacuum producers. The RA team identified one post-start finding and two observations and recommended approval to restart dry vacuum system operations. One of the RA team's observations was that the applicable job hazard analysis had not been updated to identify the latest revision of five radiological work permits that had been previously revised.