

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 27, 2017

TO: Steven Stokes, Technical Director  
FROM: Jennifer Meszaros and Rory Rauch, Resident Inspectors  
SUBJECT: Oak Ridge Activity Report for Week Ending February 24, 2017

**Unreviewed Safety Question (USQ) Process:** This week, NPO approved a revision to the CNS Y-12 USQ procedure. One of the purposes for the revision was to improve the effectiveness of the potential inadequacy in the safety analysis (PISA) process. CNS engineering management chose to pursue these changes in response to NPO and resident inspector feedback regarding weaknesses in the timely completion of PISA determinations. These weaknesses ranged from situations in which personnel attempted to perform surveillances or calculations as part of PISA determinations to situations in which personnel failed to enter or prematurely exited the new information process. The resident inspectors evaluated these weaknesses for broader trends and found that most of them involved a lack of familiarity with the Y-12 new information process or with nuanced aspects of the safety basis. The USQ procedure changes intended to address these weaknesses primarily involve shifting the responsibility for performing PISA determinations from operations personnel to safety basis personnel.

Recently, resident inspector discussions with operations personnel revealed another situation in which weaknesses in the execution of the PISA process delayed a PISA determination. In this instance, the weakness involved an interface between the USQ process and the technical procedure on-the-spot (OTS) change process. Per the Y-12 USQ procedure, OTS changes receive two USQ determinations: an initial judgment-based review before the change is issued to the field and a complete USQ determination once the change is word processed (typically two weeks after the initial change becomes effective). If the second USQ determination conflicts with the first, the Y-12 USQ process requires the responsible operations manager to determine if a PISA situation exists. Last November, personnel identified a conflict during one such review, yet failed to enter the PISA process until late January. Given this data point and the aforementioned broader trend, the resident inspectors suggested that CNS engineering management consider using the upcoming training that implements the new Y-12 USQ procedure to reinforce management expectations associated with the new information process and other processes that interface with the USQ process in unique ways (e.g., the OTS change or potential NCS issue processes, see 7/8/16 report).

**Highly Enriched Uranium Materials Facility (HEUMF):** In March 2017, A Justification for Continued Operations (JCO) associated with a Technical Safety Requirement surveillance of HEUMF smoke detectors will expire. CNS management previously selected a design modification—a Very Early Smoke Detection Apparatus (VESDA) system—that, when implemented, would allow them to test smoke detection capabilities consistent with NFPA code and thus close the JCO (See 2/12/16 report). Last month, the CNS Y-12 engineering manager sent a letter to NPO proposing safety basis changes and detector bench testing in lieu of VESDA installation.

Last week, the NPO safety and engineering organization requested that CNS engineering revise their proposed safety basis changes to reflect a smoke detector surveillance requirement that better addresses the applicable code. As a result, CNS engineering submitted a letter this week that requests a 60 day extension of the JCO, includes a code equivalency request that would support testing of existing smoke detectors, and proposes safety basis changes that will implement actions identified in the equivalency request.