DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 15, 2016

TO: Steven Stokes, Technical Director
FROM: William Linzau and Rory Rauch, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending August 12, 2016

J. Meszaros was on site to shadow site rep activities.

Building 9204-2E /Conduct of Operations: This week, CNS held a fact-finding meeting to discuss the timeline of events that resulted in an item being processed in a manner that rendered it unsuitable for further processing. The procedure governing a portion of the operations on this item applies to several item types; as such, it contains a number of conditional statements followed by steps that are optional depending on the ultimate use of each item. During the pre-job briefing for the operation in question, the supervisor mistakenly directed the work crew to execute procedure steps that should have been skipped for this particular item. Production personnel plan to evaluate the procedure in question for improvements that could reduce the potential for workers to execute incorrect steps.

The site reps reviewed the procedure in question and found the number of conditional statements to be excessive, making the procedure cumbersome to execute. For similar reasons, a CNS team had already planned to upgrade the procedure in accordance with the principles of a new performance enterprise system (PES) initiative currently being piloted in Building 9204-2E. PES is a tool that supports CNS's strategic framework for achieving performance excellence (see 5/8/15 and 3/25/16 reports). Two of the governing rules of PES state that every product and service must flow along a simple, specified path and all work is highly specified in its content, sequence, timing, and outcome. The flexibility afforded by the excessive number of conditional statements in the procedure are inconsistent with these rules, making it an excellent candidate for the PES pilot initiative. The PES pilot team effort to upgrade the procedure began this week.

Building 9215/Nuclear Criticality Safety (NCS): Late last month, an NCS engineer conducting an operational review questioned the method being used to perform an NCS surveillance. The surveillance involved checking coolant catch trays on milling machines to ensure they cannot fill to a level that would be an NCS concern. This was done by fully opening the coolant flow control valve and verifying that overflow notches on the side of the tray prevent the coolant level from exceeding a specified height. The surveillance procedure allows the use of plastic sheets and a plastic bag to control or catch the overflow. The NCS engineer's concerns included the lack of criticality controls on the volume of the plastic bag used during the surveillance. The engineer entered the potential NCS issues (PNI) process (see 7/8/16 report), which identified that this issue was a weakness in the criticality safety evaluation (CSE). NCS personnel plan to revise the CSE to incorporate a volume limit on the plastic bag.

As a result of the issue discussed above, NCS personnel conducted an extent of condition review and identified an additional concern related to a similar overflow surveillance on a nearby lathe. NCS personnel noted that an isolation valve upstream of the coolant flow control valve had a caution tag requiring it to be throttled to restrict coolant flow. NCS personnel expressed a concern that the coolant flow rate was limited in a manner that was not protected by NCS or safety basis requirements. The Building 9215 operations manager entered this new information into the potential inadequacy in the safety analysis process. Engineering and production personnel are preparing a procedure to perform the coolant overflow surveillance with the isolation valve fully open to determine if the increased flow would affect performance of the coolant height-limiting features for this lathe. In the interim, the Building 9215 shift manager has suspended operation of the lathe until this issue has been resolved.