

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Steven Stokes, Acting Technical Director
FROM: William Linzau and Rory Rauch, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending March 29, 2013

Building 9212 Operations: This week, operators encountered issues while running the primary intermediate evaporator (PIE) system in C-1 Wing of Building 9212. Initially, the gamma monitor for the process condensate tripped, indicating high uranium concentration in the process condensate line. This initiated a criticality safety interlock that placed the system in recycle mode to prevent transfer of the process condensate to certain downstream tanks in which high uranium concentrations are prohibited. Operators subsequently sampled the PIE process tanks, which revealed what appeared to be an organic solution in a greater quantity than expected for the system. The criticality safety evaluation for PIE contains a requirement that organic solutions shall not be transferred to the PIE system, with the caveat that “very small quantities of organics may appear in the system.” The PIE criticality safety engineer concluded that the quantity of organic solution in the system exceeds the quantity allowed in the criticality safety evaluation and established administrative controls to prevent personnel from accessing the area. The PIE criticality safety engineer has since approved additional sampling of the solutions in the tanks. Production personnel plan to establish recovery actions after these samples are analyzed.

Continued Safe Operability Oversight Team (CSOOT): This week, the CSOOT provided its periodic briefing to B&W and NPO senior management on its evaluation of the adequacy of Buildings 9212, 9215, and 9204-2E to support continued safe and reliable operations. The CSOOT is still gathering information and defining performance indicators for Buildings 9215 and 9204-2E (see 1/4/13 report), thus the briefing was focused entirely on the status of Building 9212. Of note, production management presented data that showed a negative trend in the availability of Building 9212 process systems relative to operational demand thus far this fiscal year. It appears the primary contributors to this trend are the increasing age of these systems and the fact that many of them are being operated well below their optimum usage rate (a condition that presents additional challenges when the systems return to operation). Both of these factors have placed an increased demand on competing maintenance resources. In addition, process changes to improve work planning and control (WP&C) and lockout/tagout (LO/TO) performance have reduced the site’s ability to perform maintenance at a rate that keeps up with this demand. B&W management believes this reduction in maintenance efficiency will wane in the long term when the WP&C and LO/TO process changes have fully matured. In addition, Building 9212 production personnel are working with the maintenance organization to develop model work packages for repetitive maintenance jobs and equipment-specific LO/TO permits, which should significantly reduce the planning resources required for those activities.

Uranium Processing Facility (UPF): The UPF Federal Project Director (FPD) sent a letter to B&W expressing concerns about how the UPF design is being controlled. The letter identified four key issues: 1) the project has not implemented an effective configuration management program for controlling the design and managing requirements; 2) design verification processes have allowed numerous errors in approved design documents; 3) corrective actions to prevent recurrence of problems have been ineffective in addressing the underlying causes; and 4) there is no stand-alone baseline project Code of Record. NNSA UPF Project Office (UPO) noted some improvements from recently updated procedures, but their reviews indicate additional actions are required. The letter directs B&W to submit a plan to address the path forward within 30 days, but B&W and UPO have already agreed on a corrective action approach.