

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 August 28, 2015

Highly Enriched Uranium Materials Facility (HEUMF): Two weeks ago, CNS management declared a potential inadequacy in the safety analysis (PISA) due to concerns that the Technical Safety Requirement-level Surveillance Requirement for smoke detectors may be inadequate (see 8/14/15 report). This week, CNS Engineering and Production management determined that the PISA represents an unreviewed safety question. The site's evaluation of the PISA indicates that there is an increased probability of failure of the detectors and reduced margin of safety but there is not an increase in the consequences of a fire.

Buildings 9720-5 and 9204-2E: Last week, CNS held a critique to brief senior managers on a series of issues associated with drums loaded in Building 9204-2E and transferred to Building 9720-5. In late July, a Special Nuclear Materials Operations (SNMO) Shift Technical Advisor determined that the documentation supporting drums transferred to Building 9720-5 did not have enough information to determine if the materials in drums were below safety basis maximum allowable quantities (MAQ) for Building 9720-5. Several days later, another issue was identified during receipt inspection at Building 9720-5 when a shipment of drums from Building 9204-2E arrived with six drums weighing less than indicated on the shipping document. At that point, the SNMO Operations Manager suspended acceptance of drums transferred from Building 9204-2E dismantlement activities. On August 10, SNMO personnel discovered a bulged and hissing drum in a separate batch of drums stored at Building 9720-5. These drums were loaded in Building 9204-2E prior to 2012 and have been stored in Building 9720-5 awaiting final disposition. This drum was successfully vented using a remotely-operated drum punch. A number of corrective actions were selected at the critique and included identifying all the stored drums that are filled with similar materials to that of the bulged drum and determining a method to ensure the identified drums do not pose a pressurization hazard.

Building 9215: This week, the Plant Shift Superintendent (PSS) authorized emergency work to address the discovery of several pressurized drums. Last Friday, Waste Management (WM) and Production personnel filled twenty 55-gallon drums with liquid from a tank used to collect waste liquids such as mop water, hydraulic fluids, and water and oil used during depleted uranium forming operations. This waste liquid had been stored in the tank for more than five years and was being emptied to support restart of the machinery in this part of the facility. Prior to filling the drums, WM personnel noted biological growth on the surface and some of the material had formed into a thick sludge. After the drums were filled, workers placed the lids on the drums but they ensured that each lid had expansion vent plugs and loose bung plugs to vent gases that may be generated. On Monday, the area supervisor and a worker noted that one of drums was bulging and two other drums had abnormal indications. The supervisor and Shift Manager made the appropriate notifications and responding personnel evaluated the situation and contacted the PSS to authorize emergency work. Y-12 Fire Department Operation (FDO) personnel donned hazardous material (HAZMAT) suits and respiratory protection to manually vent the three drums. While loosening the plug on the last of the three drums, the plug was ejected and viscous material sprayed on the FPO personnel. The personnel exited the facility to a pre-staged decontamination station where they successfully doffed their HAZMAT suits and radiological control personnel verified they were free of radiological contamination. CNS corrective actions include ensuring the remaining drums are adequately vented and issuing a standing order restricting similar activities without additional review. CNS management will conduct a critique to discuss additional actions and the extent of condition.