

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 2, 2009

TO: Timothy Dwyer, Technical Director
FROM: Donald Owen and David Kupferer, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending October 2, 2009

Staff members Blackman and Kimball and outside experts Ghiocel and Stevenson visited Y-12 to review the seismic/structural design for the Uranium Processing Facility (UPF) and observe a B&W peer review of the UPF seismic/structural design. Staff members Abrefah, Grover and March visited Y-12 to review B&W's detailed evaluations of quality assurance documentation for safety systems in the Highly Enriched Uranium Materials Facility (see the 8/7/09 site rep. report).

Highly Enriched Uranium Materials Facility (HEUMF). B&W completed its Implementation Validation Review (IVR) of HEUMF safety basis controls last week (see the 9/18/09 site rep. report). The IVR team identified 16 findings related to independent verifications, training, and software quality assurance. The IVR team also identified several observations related to improving the Documented Safety Analysis and associated Technical Safety Requirements. At the end of the IVR, B&W had not yet successfully completed all of the baseline surveillances for the secondary confinement system. B&W took corrective action to resolve eight of the findings during the review and is developing corrective actions to address the remaining findings. Based on IVR results, B&W is now planning to begin the B&W Operational Readiness Review during the week of October 19th.

Dismantlement Operations. Last week, B&W externally reported an occurrence regarding an event that occurred on September 17th during a machining activity preparing a weapon component for follow-on dismantlement in the Assembly/Disassembly Building. The event involved an unexpected separation of the exterior casing of the weapon component with underlying materials exposed. During this activity, operators use a multi-axis machining tool in an enclosure (not a glovebox) to remotely make a circumferential cut into the exterior casing to remove a section of the casing. The governing procedure directs the operator to locate and make the cut in accordance with the applicable specification *or* "as specified by the process engineer." According to B&W management, the process engineer directed the operators to program the machining tool to cut significantly lower (a few inches) on the component than called for by the specification. This variation to the normal cutting procedure was not addressed in the pre-job brief. The intent of this direction was to reduce the scope of the follow-on dismantlement process; however, the new cut path resulted in cutting into underlying materials and contaminating the machining enclosure.

Upon discovering the breach of underlying materials, the operators stopped work and made proper notifications. Radiological Control and Industrial Health personnel subsequently sampled and monitored the work area. B&W management briefed operations and engineering personnel in the Assembly/Disassembly Building on the event prior to resuming these machining operations last week. B&W is still in the process of identifying other procedures used on weapon components that contain similar flexibility for the process engineer to direct work during operations.

Building 9212. B&W completed a detailed inspection of steam system equipment in Building 9212 as part of actions for B&W's Continued Safe Operating Oversight Team (see the 7/17/09 site rep. report). The inspection team identified some deteriorated condensate piping needing replacement, but most of the inspected equipment was considered to be in satisfactory condition.