DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: Timothy Dwyer, Technical Director
FROM: Matthew Duncan and Rory Rauch, Pantex Site Representatives
SUBJECT: Pantex Plant Report for Week Ending September 23, 2011

B53 Startups: B&W has started two new operations involving the B53 program in the last two weeks. The first operation to start was the B53 secondary extraction process, which includes removal of the B53 secondary from the basic assembly case and packaging the secondary in a container for offsite shipment. The operation contains less than hazard category 3 quantities of radioactive material; therefore, the B&W general manager was designated as the approval authority. B&W authorized operations on September 12 after the B&W readiness assessment (RA) team determined that an acceptable level of readiness had been established.

PXSO authorized the second operation—transportation of B53 partial assemblies—on September 19. This operation had been segregated from other B53 SS-21 nuclear explosive operations after the nuclear explosive safety study for the B53 dismantlement process determined that Sandia National Laboratories (SNL) needed to better characterize the integrity of a component before it could be relied upon as part of the load path during transportation of B53 partial assemblies. SNL finished the analysis in July (see 7/22/11 report), allowing B&W and NNSA to proceed with readiness activities for this operation. The NNSA RA identified one post-start finding after a forklift driver violated a site requirement by failing to fully lower a load before exiting the forklift.

Conduct of Operations: The Special Nuclear Materials (SNM) division experienced several conduct of operations deficiencies in fiscal year (FY) 2010 and FY11 (see 10/1/10 and 5/13/11 reports for examples). As a result, the B&W General Manager chartered an operational improvement project for the SNM division. The primary objective of this project was to recommend corrective actions that would place the SNM division in the best position to achieve its goal of "full production with no errors." The project team completed the problem identification phase of the project last month, identifying several significant weaknesses in the areas of procedure adherence, procedure adequacy, and training.

The project team is still in the process of identifying and implementing corrective actions in response to the identified weaknesses. In the meantime, the SNM division continues to experience operational deficiencies. Last week, a procedural violation occurred during tritium reservoir packaging that illustrates many of the problems identified during this project. The violation occurred when a technician failed to record a serial number on the packaging checklist, as directed in the applicable procedure. Further exploration of the conditions surrounding the violation revealed several training issues. The technician responsible for the violation was in an on-the-job experience (OJE) status. The SNM Division training manual requires the technician to be under the observation of one qualified technician. During this violation, the qualified technician was performing a separate packaging operation, raising questions about what constitutes proper observation of an OJE technician. Further, the SNM Division training manual does not limit the amount of time a technician can be in OJE status. The technician responsible for the violation had been in OJE status for more than one year. By contrast, manufacturing division technicians can only remain in the manufacturing analog to OJE status for a maximum of 6 months. As short-term corrective actions for the violation, SNM Division management instituted reader-worker-checker protocols and is requiring at least one qualified technician at every packaging station.