

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 30, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: A. Gurevitch, M. Bradisse (acting), and C. Berg (acting), Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending July 30, 2021

High Pressure Fire Loop (HPFL): Last week, the resident inspectors noted that following the fire department response to address a major leak in the HPFL (see 7/23/21 report), the residual system leak rate peaked at 85% of the HPFL operability threshold documented in the technical safety requirements. CNS has been assessing the system for leaking post indicator valves and monitoring the system leak rate daily; as of last Friday, the leak rate had decreased to approximately 45% of the operability threshold.

Readiness Assessment: This week, CNS finalized its contractor readiness assessment report for disassembly operations on one weapon program (see 6/11/21 report) and transmitted the report to site management. The assessment team recorded four pre-start findings, two weaknesses, and fourteen observations. The findings pertained to: (1) several instances of less than adequate verbatim compliance with procedures; (2) three specific operational non-compliances with the documented safety analysis and technical safety requirements; (3) unnecessary impacts to the special tooling supporting the unit during installation of security covers; and (4) three specific deficiencies related to radiation safety. Upon satisfactory closure of each of the pre-start findings and approval of corrective action plans for the weaknesses, the assessment team's recommendation is to proceed to the federal readiness assessment for these operations.

The resident inspector observed that the procedures presented to the assessment team were improved from earlier iterations (see 3/26/21 report), and the production technicians demonstrated thorough knowledge of the process. However, while observing demonstrations, the resident inspector noted additional opportunities for improvement in the areas of radiation safety, workability and flowdown of safety controls, and recovery actions for off-normal conditions. These observations have been discussed with CNS and NPO management.

Safety Basis: Last week, during development of a safety basis change package—part of an effort to revise specific administrative controls (SAC) and design features within the hazard analysis report for a weapon program—CNS safety analysis engineering identified an issue with a SAC regarding installation of protective covers. This control requires that protective covers be in place at all times unless it is required to be removed by the process. As detailed in the technical safety requirements, the SAC further defines the specific protective covers that must be properly secured during processing of each weapon configuration. For a few configurations, the SAC contains errors related to the proper securing of a cable and shorting plug.

Due to this new information, CNS safety analysis engineering declared a potential inadequacy in the safety analysis (PISA). Furthermore, this week, CNS determined that the PISA represented an unreviewed safety question due to an increase in the probability of an accident. Of note, CNS identified that the associated electrical hazards for these configurations are still adequately addressed in the safety basis by an existing control for a similar configuration, and therefore did not establish any operational restrictions.