

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 30, 2023

TO: Katherine R. Herrera, Acting Technical Director
FROM: C. Stott and C. Berg (acting), Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending June 30, 2023

Special Tooling: This week, production technicians within a nuclear explosive cell discovered that a piece of special tooling—i.e., a height gage for a certain component—was not functioning properly when assessing it against a known standard. The production technicians obtained a replacement tool from an adjacent facility but did not check its calibration status. CNS had not conducted active operations in the adjacent facility for over a week and the calibration date of this particular tool had lapsed. As a result, the technicians used the expired tool to complete certain operations within the nuclear explosive cell. During the following shift, technicians also did not identify the issue during pre-operational checks and continued to use the same tool to complete operations. The next day, CNS Quality personnel discovered the expired calibration date recorded in the completed procedure.

During the investigation and critique, CNS participants noted multiple concerns, including: (1) technicians across multiple shifts did not verify special tooling calibration dates prior to use or validate tooling calibration status via the provided computer software application; (2) the software application has contained discrepant information related to the tooling preventive maintenance dates compared to the value listed on the tooling stickers; and (3) CNS personnel did not update the location of the special tooling within the software application—upon retrieval of the expired tooling—and also failed to remove the expired equipment from service.

In response to the discovery, CNS initiated the nonconformance process and removed the tooling from service. Subsequently, CNS Metrology verified that the tooling was still within calibration limits and therefore did not impact product quality. As corrective actions for this event, CNS will brief all production technicians for this weapon program on site expectations for checking tooling expiration dates prior to use. The site also plans to validate special tooling data contained in the software application.

Loss of Two-Person Control: This week, four production technicians within a nuclear explosive cell placed the facility into *Pre-op* mode via the access console to test the blast door interlocks and remove expired material through the equipment interlock. This facility mode is designed to preclude others from entry through the personnel interlock. Right before entering this facility mode, a fifth technician—also assigned to the facility—entered the facility via the personnel interlock. Due to the layout of the facility, the initial four technicians were not aware of the entry and continued with the *Pre-op* mode activities. When exiting the equipment interlock and entering the operational area of the facility, the four technicians identified that the individual had inadvertently been left alone with materials of concern within the facility. After discovery, the technicians made notifications to the appropriate personnel for a loss of two-person control event, an inventory of the facility was performed with no issue, and the technicians secured the facility. As part of the investigation, CNS enacted an interim action to place a sign outside the facility instructing individuals to call the technicians inside the cell prior to entering to prevent a similar event while a long-term solution is developed.