

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 28, 2022

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** C. Berg and R. Tontodonato, Acting Resident Inspectors  
**SUBJECT:** Pantex Plant Activity Report for Week Ending October 28, 2022

**Staff Activity:** CNS is assessing facility modifications in order to again use a facility—currently inactive due to a previous contamination event—as a nuclear explosive cell. C. Berg and R. Tontodonato continued discussions with NPO and CNS regarding whether facility upgrades would constitute a major modification per DOE Standard 1189 (see 10/21/22 report). The acting resident inspectors also conducted a walkdown of the facility. In addition, the acting resident inspectors observed nuclear explosive operations and obtained further details associated with two units found in configurations (i.e., the position of an indicator) that differed from the expected condition (see 7/29/22, 8/26/22, and 10/21/22 reports).

**Compressed Air Supply:** The technical safety requirements state that the compressed air supply system shall be designed and qualified to remain below a specified working pressure. Two years ago, while performing a material condition walkdown of the system, CNS personnel identified two auxiliary air compressors—within an equipment room servicing a set of nuclear explosive cells—not controlled under facility configuration management and not appropriately isolated from the safety class compressed air system (see 10/16/20 report). These auxiliary compressors could provide additional pressure to the system and potentially bypass the over-pressure controls. In response to this event, CNS isolated the two auxiliary compressors from the system and performed an extent of condition review to identify any additional air compressors inappropriately tied into the facility compressed air supply.

This week, while responding to an issue within a special nuclear material facility, CNS facility engineering personnel discovered another auxiliary air compressor connected to the compressed air supply system. The incident was categorized as a noncompliance with the documented safety analysis. At the event critique, CNS engineering personnel discussed the effectiveness of the previous extent of condition review, noting that the extensiveness of the system contributed in part to this missed auxiliary compressor. In response to the most recent event, CNS isolated the auxiliary compressor from the compressed air supply and conducted a targeted extent of condition review, primarily within defense nuclear facilities. No additional air compressors were found connected to the compressed air system during these walkdowns.

**Special Tooling:** CNS issued a piece of special tooling (i.e., a press fixture) not meeting its design definition for use in a nuclear explosive cell. The special tooling is credited to maintain positive control of the nuclear explosive and retain structural integrity during both normal and rare event loads, as well as apply no more than a specified pressure during pressing operations. In this instance, the special tooling was incorrectly assembled and therefore its configuration did not match drawing specifications. The CNS tooling review team issuing the special tooling to the production line verified tooling calibration but missed the incorrect configuration. Production technicians installed the tooling but identified the discrepancy prior to use of the tooling for its credited function. In response to the event, CNS verified all other special tooling copies issued for production use met drawing specifications.