

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 1, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: C. Berg, Acting Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending July 1, 2022

Fire Alarm Receiving System (FARS): Earlier this week, the emergency services dispatch center (ESDC) reported a loss of connectivity with the FARS. CNS categorized the event as a performance degradation of a safety class structure, system, or component when required to be operable. When notified, the CNS Facility Operations Manager entered the appropriate limiting conditions for operations (LCO) for both the high pressure fire loop and deluge Eagle Quantum Premier fire suppression system. Actions associated with these LCOs include placing all nuclear explosive operations into safe and stable configurations in those facilities serviced by the deluge fire suppression system, as well as establishing a fire watch for those facilities or implementing defined combustible material standoffs from thermally sensitive components.

At the investigation and critique, participants identified the cause of the event as resulting from an unexpected reboot of the FARS servers when preparing for installation of a software patch. Generally, to expedite the update process, fire protection engineering (FPE) first downloads the software patch on both active and inactive servers. To prevent a connection loss with the FARS, FPE then only installs the software on inactive servers, cycling which servers are active to ensure all eventually are updated. However, in this instance, the act of downloading the software patch led to a server reboot and loss of connection to FARS. To prevent recurrence of this event, investigation participants identified a corrective action to codify software patch expectations within a FARS operating manual; specifically, FPE will now both download and install software patches only on inactive servers. Following the event, CNS proceeded with installation of the software patch and executed a preventive maintenance procedure to verify operability of the FARS. CNS identified no issues during these activities, declared the FARS operable, exited the associated LCOs, and resumed normal operations in affected facilities. The resident inspector notes that this is not the first instance of ESDC connectivity loss with the FARS; though, previous instances occurred due to other reasons (see 1/15/21, 5/21/21, and 8/27/21 reports).

Special Tooling: Earlier this year, CNS discovered that an enhanced transportation cart—containing a nuclear explosive—had been moved from one facility to another, despite the container being outside its in-service inspection (ISI) grace period date (see 5/13/22 report). This week, CNS convened a causal analysis to address why the event occurred and how to prevent it in the future. Participants discussed various mechanisms to prohibit the movement of special tooling when outside its ISI grace period (e.g., a restriction within movement software). The resident inspector views implementation of such a restriction to be a positive development.

Safety Basis: While developing a safety basis change package, CNS noted that electrostatic discharge scenarios during hoisting operations may not be sufficiently addressed. The specific hazard scenario involves electrostatic discharge between the hoisting operation and certain weapon configurations present in the facility staging area. CNS declared a potential inadequacy of the safety analysis this week and implemented an operational restriction to prevent the hazard by prohibiting hoisting operations within six feet of specific configurations in the staging area.