

The seal of the Defense Nuclear Facilities Safety Board is a circular emblem. It features a central shield with a golden eagle perched atop it. The eagle's wings are spread, and it holds a banner in its beak. The shield is flanked by two golden laurel branches. The entire emblem is set against a blue background. The words "UNITED STATES OF AMERICA" are arched across the top, "DEFENSE" is on the left, and "NUCLEAR FACILITIES SAFETY BOARD" is arched across the bottom.

Perspective on DOE Emergency Response

Tom Summers

Vice Chair, Defense Nuclear Facilities Safety Board



Discussion Points

- Protective Actions
- Communications
- Radiation Protection
- Additional Thoughts





Questions?



Discussion with EHSS Emergency Management Assessment Working Group

Wednesday, June 14, 2023

Meeting Agenda

11:00 – 11:05 Welcome and Guest Speaker Introductions

11:05 – 11:20 Vice Chair Summers – Defense Nuclear Facility Safety Board (DNFSB)

11:20 – 11:30 Question & Answer

11:30 – 11:45 Jamie Clark – Cyber Security, Energy Security, and Emergency Response (CESER) Overview

11:45 – 11:55 Question & Answer

11:55 – 12:00 Closing

Suggested emergency response discussion topics

- **Introduction**
 - (I am not aware of how much the interviewers know about the DNFSB or our purview.)
- **Protective Actions**
 - Issues with implementing protective actions
 - Workers failing to evacuate/shelter, e.g., loitering in break room
 - Worker accountability taking over an hour to complete
 - Public address systems at some sites are degraded
 - May be correlated with workforce turnover/inexperience
- **Communication & Establishing a Common Operating Picture**
 - Most common issue. Human error is unavoidable but good communication practices will mitigate the effects.
 - Inconsistent use of three-way communications
 - Avoidable misunderstandings of conditions in the field
 - Lack of joint briefings between response groups
- **Radiation Protection During Emergency Response**
 - Incorrect selection/use of instruments
 - Miscommunicating radiological units
 - Using terms other responders don't understand
 - Radcon personnel need to be able to act as first responders and be integrated with EROs – often not the case.
- **DOE Oversight** may be a topic of interest.
 - Recent EA-33 assessment of emergency management program offices

- Nine years after Board Recommendation 2014-1 was issued, DOE/NNSA is still wrestling with how to ensure Departmental leadership understands site EP&R program issues (e.g., establishing sufficiently-detailed reporting metrics).
- **Miscellaneous points to consider:**
 - Readiness Assurance programs are often designed around compliance with the Order rather than assessing implementation or effectiveness.
 - Sites would benefit from improved use of performance metrics and trending of emergency response performance.
 - Some sites rely on volunteer EROs. Some sites compensate ERO members.
- **Positives to consider:**
 - Investments in new EOCs, fire stations
 - Involving stakeholders early in upcoming DOE Order 151.1 revision
 - Sites are generally receptive to receiving DNFSB staff feedback

DOE Exercises observed by Mr. Summers

(links are to the respective OTD group weeklies)

- SRS (Tritium Extraction Facility) – Explosion, Tritium Release – [May 2022](#)
- Y-12 (Building 9212) – Uranium Fire – [June 2022](#)
- LANL (Plutonium Facility) – Nuclear Criticality – [July 2022](#)
- WIPP (Waste Handling Building) – Airplane Crash – [September 2022](#)
- NNS (Radioactive Waste Management Complex) – Malevolent Event – [March 2023](#)
- Hanford (PNNL Radiochemical Processing Laboratory) – Nuclear Criticality – [May 2023](#)
- *Upcoming: Pantex, LLNL (Superblock), Y-12 (severe event)*

2022 EMI-SIG Speech – “Safety and Readiness Assurance”

[\(link to transcript\)](#) [\(slides\)](#)

Main Topics:

- Workforce turnover, proficiency, and ERO experience
- Implementation of protective actions
- Exercise design and realism
- Self-criticism and self-evaluation
- Federal staffing
- Communications and resiliency
- Establishing performance metrics (beyond what’s required by the Order)

Staff's Summary of FY22 Emergency Exercise Observations

[\(link to staff report\)](#) [\(slides\)](#)

Executive Summary: “In fiscal year 2022 (FY22), members of the Board’s staff (staff team) conducted a series of on-site observations of DOE/NNSA emergency exercises. This staff report summarizes common issues of concern and trends identified in FY22 based on these observations. Areas of concern include reduced responder proficiency due to COVID-19-related exercise pauses, poor workforce implementation of protective actions and accountability, lack of realism in simulations and response indicators, poor or inappropriate exercise control, weaknesses in incident command and fire department response, weaknesses in radiation protection response, and general issues with site and responder communications. DOE/NNSA and its contractors have been generally successful in capturing the issues noted here in respective after action reports; however, these should be areas for continued attention by the staff team in FY23.”

Quotes from EMI-SIG about purpose/scope of the assessment

- Frank Rose, Principal Deputy Administrator of NNSA: “DOE senior leadership requested an independent, third party study of emergency management and response from across the enterprise. This study has been underway since January and the study team has been reading directives and conducting interviews with program offices, labs, plants, and sites, and organizational elements to ensure the information garnered reflects the whole emergency management enterprise’s experience. If you are asked to participate in this process, please be brutally honest about not only what we do well, but what we can do better in the future. The assessor will present recommendations later this summer on how we can improve efficiency and reduce redundancy in emergency management across the enterprise and we look forward to sharing and acting upon the study’s findings.”
- John Juskie, NNSA Associate Administrator for Emergency Operations (NA-40): “DOE, in coordination with NNSA, has commissioned this third party study to look at emergency response across the DOE and NNSA complex. The goal of the study is to help as an enterprise in understanding how we can improve our emergency response capabilities, simplify processes and structures, and increase our effectiveness to our customers and stakeholders.”