

Joyce L. Connery, Chair
Thomas A. Summers, Vice Chair
Jessie H. Roberson

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

Washington, DC 20004-2901



December 16, 2022

The Honorable Jennifer M. Granholm
Secretary of Energy
US Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-1000

Dear Secretary Granholm:

The Defense Nuclear Facilities Safety Board (Board) reviews and evaluates the content and implementation of the Department of Energy's (DOE) safety standards (i.e., directives and technical standards) pertaining to DOE's defense nuclear facilities. Additionally, the Board makes safety recommendations for necessary changes to those safety standards that will help to ensure that public health and safety are adequately protected.

Under this authority, on January 6, 2022, the Board informed DOE that the Board had selected several safety standards to review in fiscal year 2022. Below is a summary of the safety reviews that the Board conducted in fiscal year 2022.

- **DOE Handbook 3010-94, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities***—This safety handbook provides a systematic compilation of airborne release and respirable fraction experimental data for nonreactor nuclear facilities in the DOE complex. DOE was revising select portions of the safety handbook in 2021. The Board's staff provided comments to DOE in October 2021. DOE has not yet responded to the staff comments. The staff will continue the effort in fiscal year 2023.
- **Draft DOE Handbook 1224, *Hazard and Accident Analysis Handbook***—This safety handbook guides development of documented safety analyses for nuclear facilities to satisfy the safety requirements of a safe harbor method set out in 10 Code of Federal Regulations Part 830, Subpart B, and may also be used to prepare and document safety hazard and accident analyses during facility design. DOE is currently revising the safety handbook based on the comments it received, including those from the Board's staff in 2021. The Board's staff met with DOE personnel on several occasions in 2022 to discuss the Board's comments and will continue the effort in fiscal year 2023.
- **Draft DOE Order 425.1, *Verification of Readiness to Start Up or Restart Nuclear Facilities***—The order establishes requirements for verifying readiness for startup of

new Hazard Category 1, 2, and 3 nuclear facilities, activities, and operations, as well as for restart of existing facilities that have been shut down. The Board's staff provided comments to DOE in December 2021. DOE is continuing the effort to revise the order in fiscal year 2023. The Board's staff will review draft revisions when they are made available.

- **Draft DOE Standard 1066, *Fire Protection***—In September 2022, the Board's staff provided significant comments to DOE on the July 2022 version of this safety standard that provides acceptable methods and approaches for meeting DOE fire protection program and design requirements. The staff will continue the effort in fiscal year 2023.
- **Draft DOE handbook replacing EH-0545, *Seismic Evaluation Procedure for Equipment in U.S. Department of Energy Facilities***—DOE is converting the procedure into a safety handbook that provides comprehensive safety guidance for consistent seismic evaluations of equipment in DOE facilities. The Board's staff reviewed and provided comments to DOE on early draft versions in 2021. The staff received the draft safety handbook on November 3, 2022, and will review it in fiscal year 2023.
- **Draft DOE Standard 1129, *Tritium Handling and Safe Storage***—DOE did not revise this safety standard in fiscal year 2022, as it originally intended. When DOE revises the safety standard, the staff plans to review it.
- **Draft DOE Order 435.1, *Radioactive Waste Management***—DOE has started a revision of the safety order. The staff plans to review the draft safety order when it becomes available in fiscal year 2023.
- **Draft DOE Limited Standard 3016, *Hazard Analysis Reports for Nuclear Explosive Operations***—This safety standard applies to the conduct of hazard analyses and preparation of hazard analysis reports for nuclear explosive operations conducted by DOE's National Nuclear Security Administration (NNSA). DOE proposed a revision to the safety standard in 2021. Following the delivery of the Board's staff's comments to DOE in October 2021 and several meetings in 2022, NNSA withdrew the 2021 revision. In July 2022, NNSA proposed a new revision to DOE-NA-STD-3016. The Board's staff plans to review the latest revision in fiscal year 2023.

In determining which DOE safety standards and their implementations to review in fiscal year 2023, the Board has considered those that it has already started reviewing, those that are planned for revision, those that have complex-wide effects, and those that establish controls for high-hazard activities. The Board has selected the following safety standards to review in fiscal year 2023:

- **Draft DOE Handbook 3010, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities*,**

- **Draft DOE Handbook 1224**, *Hazard and Accident Analysis Handbook*,
- **Draft DOE Order 425.1**, *Verification of Readiness to Start Up or Restart Nuclear Facilities*,
- **Draft DOE Standard 1066**, *Fire Protection*,
- **Draft DOE Handbook 1545**, *Seismic Evaluation Procedure for Equipment in U.S. Department of Energy Facilities*,
- **Draft DOE Standard 1129**, *Tritium Handling and Safe Storage*,
- **Draft DOE Order 435.1**, *Radioactive Waste Management*,
- **Draft DOE Limited Standard 3016**, *Hazard Analysis Reports for Nuclear Explosive Operations*,
- **Draft DOE Standard 1239**, *Chemical Safety Management Program*, and
- Orders and technical standards that DOE revises as a result of its work on the implementation plan for Recommendation 2020-1, *Nuclear Safety Requirements* (e.g., **DOE Order 420.1**, *Facility Safety*, **DOE Standard 1104**, *Review and Approval of Nuclear Facility Safety Basis and Safety Design Basis Documents*).

The Board may elect to add or change reviews of DOE safety directives and technical standards as it deems appropriate.

Sincerely,



Joyce L. Connery
Chair

c: Mr. Joe Olencz