

Joyce L. Connery, Chair
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**DEFENSE NUCLEAR FACILITIES
SAFETY BOARD**

Washington, DC 20004-2901



February 25, 2021

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

Dear Secretary Granholm:

Congratulations on your confirmation as the Secretary of Energy! We look forward to a positive and productive working relationship with you and your team.

The Defense Nuclear Facilities Safety Board (or Board) was established in 1988 to provide independent analysis, advice, and recommendations to inform you and ensure adequate protection of public health and safety at the Department of Energy's (DOE) defense nuclear facilities. Relations between our organizations have been challenged over the past several years. To improve the interface between DOE and the Board, our staffs have embarked on an effort to conclude a memorandum of understanding (MOU) between our two agencies. We hope to be able to engage with you on this important MOU effort as soon as possible.

We request an opportunity to meet with you during the first calendar quarter of 2021 to discuss the MOU as well as safety challenges and opportunities, some of which are provided in the enclosure to this letter for your information. Our point of contact for scheduling is our Manager of Board Operations, Mrs. Tara Tadlock, 202-694-7176.

Sincerely,

Joyce L. Connery
Chair

Enclosure

c: Mr. Joe Olencz

ENCLOSURE

DOE-Board Interface. Over the past few years, the Defense Nuclear Facilities Safety Board (Board) noted a decline in its historically strong and constructive relationship with the Department of Energy (DOE). FY 2021 appropriations legislation directs the Board and DOE to complete a memorandum of understanding (MOU) to help improve this relationship. To support this, the Board and DOE established a working group to develop this MOU, which will improve communication, improve transparency, and better define key interface points between the two agencies. Overall, the Board is encouraged by these efforts, but more work is needed to restore the Board's long-standing productive relationship with DOE.

Nuclear Safety Requirements. On February 21, 2020, the Board issued Recommendation 2020-1, *Nuclear Safety Requirements*. The recommendation is intended to strengthen DOE's nuclear safety regulatory framework, such that it provides sufficient requirements to ensure that defense nuclear facilities maintain adequate protection of public health and safety. Specifically, the Board made recommendations in the areas of aging infrastructure, hazard categorization, DOE approvals, and safety basis processes and requirements. On June 11, 2020, DOE rejected most of the Board's recommendations. The Board is continuing to evaluate DOE's response to the recommendation, as well as the final version of the revised 10 CFR 830, which DOE published on October 19, 2020. To that end, the Board conducted a virtual public meeting on December 4, 2020, during which members of the Board's technical staff presented information regarding the status of issues outlined in Recommendation 2020-1.

Savannah River Site (SRS) Tritium Facilities. On June 11, 2019, the Board transmitted Recommendation 2019-2, *Safety of the Savannah River Tritium Facilities*, to the Secretary of Energy. The Board recommended that DOE (1) identify and implement near-term compensatory measures and long-term controls to prevent or mitigate the potential high radiological dose consequences, and (2) evaluate the adequacy of emergency preparedness programs and upgrade them as necessary. DOE rejected the recommendation, both in its initial response in September 2019 and following the Board's reaffirmation in December 2019. The newest facility safety basis, presently projected to be implemented in 2025, presents calculated dose consequences to co-located workers from multiple accident scenarios that are still nearly 100 times higher than DOE's guideline. The Board remains concerned about the safety of the Tritium Facilities and continues to monitor operations and actions to improve safety.

Safety of Solid Nuclear Waste. Over the past few years, DOE experienced two significant events in which waste drums released radiological materials due to energetic chemical reactions involving the waste: one event was in 2014 at the Waste Isolation Pilot Plant and the other was in 2018 at the Idaho National Laboratory. As a result, the Board evaluated how DOE analyzes hazards and implements controls at facilities that generate, process, and store solid nuclear waste. The Board held a public hearing and issued reports related to these events, including two reports published in 2020, one noting deficiencies in the DOE Standard for safety basis documents for transuranic waste facilities, and the other noting that additional credited safety controls may be needed at some of Los Alamos' facilities. Progress has been made on revising the standard, and the Board is awaiting additional information from Los Alamos.

Y-12 National Security Complex: Nuclear Criticality Safety. The Board has repeatedly expressed concern to the Secretary of Energy regarding nuclear criticality safety at Y-12, including issuing letters on February 6, 2019, June 5, 2019, and July 25, 2019, regarding the overall performance of the contractor's nuclear criticality safety program, continuing discoveries of unexpected uranium accumulation in equipment and process areas, and insufficient oversight of nuclear criticality safety by the National Nuclear Security Administration (NNSA) Production Office. The Board requested a detailed briefing on actions taken to address these concerns in a letter to the NNSA Administrator on August 23, 2019, and traveled to Y-12 to receive this briefing in October 2019, the first site visit by the full Board in several years. The Board remains concerned with nuclear criticality safety at Y-12 and has initiated follow-up reviews that include an assessment of efforts by the Y-12 contractor and the NNSA Production Office to address the previously identified issues, as well as a review focused on fissile material holdup in out-of-service equipment in Y-12's uranium facilities.

Waste Isolation Pilot Plant (WIPP). The Board continues to provide oversight of WIPP operations, the National Transuranic Program, and construction projects intended to increase underground ventilation, including the Safety Significant Confinement Ventilation System (SSCVS) Project and the Utility Shaft Project. The SSCVS replaces the existing filtered underground ventilation system and increases the underground airflow. In an August 27, 2019, letter to the Secretary of Energy, the Board outlined safety issues associated with SSCVS, which DOE acknowledged and committed to address. Progress on both SSCVS and Utility Shaft projects has slowed during the latter part of 2020 as DOE works to resolve issues with contractor performance and New Mexico Environment Department permitting requirements. The Board has also communicated to the Secretary of Energy concerns regarding the analysis and control scenarios in the WIPP safety basis document and a lack of appropriately trained and qualified personnel to perform federal oversight of contractor activities associated with the safety basis process.