

**STATEMENT
OF
THE HONORABLE BRUCE HAMILTON, CHAIRMAN
DEFENSE NUCLEAR FACILITIES SAFETY BOARD**
before the
**COMMITTEE ON ARMED SERVICES, SUBCOMMITTEE ON
STRATEGIC FORCES**
UNITED STATES HOUSE OF REPRESENTATIVES
APRIL 9, 2019

Chairman Cooper, Ranking Member Turner, and distinguished members of this Subcommittee, it is an honor to be before you today as chairman of the Defense Nuclear Facilities Safety Board to share my observations on the challenges and Board's actions associated with providing oversight of the Department of Energy's defense nuclear facilities complex.

For those members of the Subcommittee who may not be familiar with the work of the Board, we are responsible, by statute, to conduct independent oversight of defense nuclear facilities and to inform the Secretary of Energy when we find issues that challenge the adequate protection of public health and safety. The Board is also statutorily mandated to review the content and implementation of DOE standards, facility and system designs, and events and practices at DOE defense nuclear facilities that the Board determines have adversely affected, or may adversely affect, public health and safety.

The President's request for the Board is \$29,450,000 and 100 full-time equivalents (FTEs) to carry out the Board's mission in Fiscal Year 2020. This is a five percent decrease from the agency's Fiscal Year 2019 appropriation level of \$31,000,000. The Board's foundation is built on the expertise of its Board members and its staff in support of the Board's mission, and approximately two-thirds of the Board's annual budget is dedicated to salaries and benefits.

I would like to discuss a few of the Board's priorities as they relate to providing oversight of the Department of Energy's defense nuclear facilities complex. The Board currently has four open Recommendations that the Department is working to address and are in various stages of completion. First, Recommendation 2011-1, Safety Culture at the Waste Treatment and Immobilization Plant: the Department has completed its implementation plan, and the Board is evaluating the Department's actions against the original Recommendation to ascertain if progress was made to resolve the original concerns of the Recommendation. Second, Recommendation 2012-1, Savannah River Site Building 235-F Safety: the Department is working towards the mitigation of Pu-238 hazard and is currently focused on Cell 1. Next, Recommendation 2012-2, Hanford Tank Farms Flammable Gas Safety Strategy: the Department is working to implement tank ventilation that meets requirements for safety-related systems. Finally, Recommendation 2019-1, Pantex Uncontrolled Hazard Scenarios and 10 CFR 830 Implementation: the Board is awaiting the Department's response regarding this most recent recommendation.

At Los Alamos National Laboratory, the Board plans to focus on the Plutonium Facility's (PF-4) seismic vulnerabilities of the structure, deficiencies in facility safety basis and safety systems, and deficiencies in nuclear criticality safety program. In addition, the Board is focused on Transuranic Waste Management including the safety basis for Area G transuranic waste operations and safety controls for mobile loading of transuranic waste for shipment to Waste Isolation Pilot Plant.

At the Idaho National Laboratory, the Board is analyzing implications of the April 2018 solid waste drum over-pressurization event in the Accelerated Retrieval Project (ARP) V. The Board sent two pieces of correspondence to share its concerns and outline open questions for the Department. The Board is also planning a public hearing for May 2019 to discuss the

implications of the hazards of solid waste and the controls the Department uses to protect the public.

At the Waste Isolation Pilot Plant, the Board has been and will continue to monitor steady state operations. The Board plans to continue reviewing revised safety basis and safety management programs related to maintenance, radiological protection, and ground control.

At Hanford the Department's clean-up work poses worker hazards and potential for radioactive releases. The Board plans to continue monitoring DOE efforts to demolish deactivated, high-hazard plutonium production and processing facilities, and to retrieve and disposition nuclear waste that was created during the production of plutonium.

At the Savannah River Site, the Board plans to focus on the Tritium Facilities and design basis accidents with severe onsite consequences. In addition, the Board plans to review processing and storage of nuclear materials, plutonium storage and down-blend, spent nuclear fuel storage and processing, high-level waste storage and processing, and the startup of the Salt Waste Processing Facility.

At the Y-12 National Security Complex, the Board will focus on the nuclear criticality safety program, uranium accumulation in process equipment, and construction of the Uranium Processing Facility.

The Board is also focused on aging infrastructure. Aging facilities are prone to degraded systems and structures, increased radiological hold-up, obsolescent equipment and unavailable replacement parts, and retrofits to meet evolving missions. The increased use of Administrative Controls coupled with inexperienced staff presents challenges. The Board is monitoring the Department's efforts to mitigate risks and develop replacement capabilities such as the Y-12

Extended Life Program, Los Alamos National Laboratory Plutonium Strategy, and Pantex ramps structural retrofits and safety system upgrades.

The Board also plans to perform design and construction oversight. Prior to construction of new facilities, the Board reviews safety basis and safety-related structures, systems, and components. During construction the Board is there to review quality assurance and operability testing of safety systems. More than a dozen new facilities are under the Board's purview including the Hanford Waste Treatment and Immobilization Plant and related facilities, Y-12 Uranium Processing Facility (UPF), Savannah River Salt Waste Processing Facility, and Pantex Material Staging Facility.

Now I would like to discuss the Board's most recent accomplishments that we will continue to build upon in the coming year. The Board reviewed the safety basis and control strategy for nuclear explosive operations at the Pantex Plant. In April 2018, the Board approved the conduct of a preliminary safety inquiry, which is a type of safety investigation under 42 U.S.C. § 2286a(b)(2) and 10 Code of Federal Regulations Part 1708, regarding implementation of 10 Code of Federal Regulations Part 830 at Pantex. Based on the preliminary safety inquiry, the Board determined that portions of the safety basis for Pantex nuclear explosive operations do not meet 10 Code of Federal Regulations Part 830; that multiple components of the process for maintaining and verifying implementation of the Pantex safety basis are deficient, including completion of annual updates as required by 10 Code of Federal Regulations Part 830; and that, to date, the NNSA Production Office and the Pantex management and operating contractor have been unable to resolve known safety basis deficiencies. The Board posted documents describing these conclusions on its public website on September 10, 2018. After sending the Secretary of Energy a Draft Recommendation and receiving the Secretary's response, on February 20, 2019,

the Board approved and sent the Secretary Board Recommendation 2019-1, *Uncontrolled Hazard Scenarios and 10 CFR 830 Implementation at the Pantex Plant*. The Board is awaiting the Secretary's response due in early May. Given the importance of the Pantex Plant to the National Nuclear Security Administration's mission, its aging infrastructure, and increase in operational tempo, we are concerned with the safety posture at the Pantex Plant. The Board determined these were issues of adequate protection and conveyed those concerns in the form of a Recommendation.

On April 11, 2018, four waste drums at the Idaho National Laboratory underwent over-pressurization, ejecting their lids and spreading radiological waste within the ARP-V. The Department of Energy determined that waste in the drums generated methane gas, which contributed to the event. The Board determined that current drums with repackaged waste may contain flammable gases in high enough concentrations to allow deflagrations, and the Department of Energy currently does not have effective controls at the Idaho National Laboratory to prevent or mitigate such deflagrations. The Board continues to seek information related to these drums to determine if these are issues of adequate protection and recently sent the Secretary of Energy correspondence formally requesting information. As part of this effort, the Board intends to conduct a public hearing on the subject of safety management of solid waste storage and processing in the Department of Energy complex by the end of May 2019. The Waste Isolation Pilot Plant accident in February 2014 coupled with what we are seeing at the Idaho National Laboratory, confirms that legacy waste handling, processing, and packaging continues to be a challenge that warrants the Department's diligence. The Department needs to better understand how to package and store this waste safely at the generator sites even before transport to the Waste Isolation Pilot Plant.

The Board has also focused its resources on reviewing the combined Tritium Facilities Safety Basis at the Savannah River Site. In a June 4, 2018, letter to the Secretary of Energy, the Board stated it was concerned that there is a need to evaluate and implement additional safety controls for the Savannah River Site Tritium Facilities to address accident scenarios that may result in high radiological dose consequences to co-located workers or off-site public. The Board also noted concerns with how the facility worker is relied on to self-protect during events, the Department of Energy's application of administrative controls, and various analytical assumptions used in the safety basis for the facilities.

The Department of Energy is revising Title 10, Code of Federal Regulations, Part 830 (10 CFR Part 830), *Nuclear Safety Management*, which is the cornerstone of the Department of Energy's regulatory framework to ensure adequate protection of public health and safety. The Board has identified several concerns with the Department of Energy's notice of proposed rulemaking and communicated its comments in its letter of October 5, 2018, to the Secretary of Energy. The Board is concerned that the proposed revision will make it more difficult for the Department of Energy to exercise consistent oversight across the complex and loosens requirements upon which the Department of Energy and the public rely to ensure adequate protection of public health and safety. The Department has maintained a solid safety record at defense nuclear facilities and is working on simultaneous changes to its regulatory framework. The Board remains concerned that adjustments to the regulatory framework at a time when the complex is facing growth in mission, complicated decommissioning work, an always aging infrastructure, and human capital turnover could contribute to a less robust safety posture.

The Board utilized its staff to conduct nuclear criticality safety reviews in 2018 to ascertain the health of selected Department of Energy defense nuclear facilities complex

programs. In particular, the Board reviewed the management and operating contractor's nuclear criticality safety programs for compliance with ANSI/ANS criticality safety standards, as well as the Department of Energy's field office oversight. The Board's most recent review included the Y-12 National Security Complex. The Board's oversight of the Y-12 criticality safety program is ongoing. Criticality safety issues remain a concern across the complex.

Finally, in May 2018, the Department of Energy issued Order 140.1, *Interface with the Defense Nuclear Facilities Safety Board*, to replace its prior directive on interface with the Board, Manual 140.1-1B. Order 140.1 incorporated major changes including new restrictions and protocols regarding the Board's access to information, facilities, and personnel that could diminish the Board's ability to effectively perform its statutory mandate under the Atomic Energy Act of 1954, as amended. As written, Order 140.1 could limit Board oversight of many of the Department of Energy's defense nuclear facilities. The Board has communicated its concerns regarding Order 140.1 to the Secretary of Energy in its letters of September 17 and December 21, 2018, and has held three public hearings to gather information on the implementation of the order by the Department of Energy and its contractors. It is the unanimous view of the Board that DOE Order 140.1 is in direct conflict with a plain reading of the Atomic Energy Act (as Amended) in several ways. For instance, the Order defines the public as existing only outside the geographical site boundary. Such an interpretation could preclude Board oversight for workers, collocated workers, and general members of the public who were present inside a site boundary. Notably, it could also prevent Board oversight for important programs such as criticality safety. Not only is this inconsistent with the Atomic Energy Act, but this would be a clear departure from well-established past practices. In its December 21, 2018, letter, the Board reiterated its commitment to collaborate with the Department of Energy to

resolve these concerns, however, to date we have seen no evidence that the Secretary is inclined to do so.

I would also like to discuss several items of Board internal management. On August 14, 2018, the Board approved (three in favor, one opposed) the following motion made by then-Acting Chairman Hamilton:

“In order to improve effectiveness in conducting the Mission of the Defense Nuclear Facilities Safety Board through more robust field oversight and a leaner and nimbler headquarters staff, the Board approves and directs the following:

“1. The Acting Chairman shall establish an Executive Director of Operations (EDO) who has line authority over all Agency staff except the Office of the General Counsel. The EDO is the senior employee responsible for budgetary and general administration matters and the senior employee responsible for technical matters as specified in 42 U.S.C. § 2286. (c) (7)(C)(i) and (iii). The EDO position shall be filled through posting both internally and externally;

“2. The Acting Chairman shall re-structure the agency’s organization, administrative units, and functions in accordance with enclosure (1) while retaining the organizational flexibility to optimize performance;

“3. The Acting Chairman shall establish a limit of 100 FTE (86, plus 5 Board Members and 9 SES) for FY2019. The Acting Chairman shall reduce further the size of the Agency through selected attrition to 79 FTE (69, plus 5 Board Members and 5 SES), at which time that will become the new limit.

“4. The Acting Chairman shall implement this re-structuring as the approved FY 2019 staffing plan.

“These changes shall be executed in accordance with all applicable Federal statutes and regulations.”

Congressional appropriators did not support the plan, and they included language in the *Energy and Water Development and Related Agencies Appropriations Act, 2019* which preempted its implementation. Consequently, I have made no structural changes to our organization. I have directed hiring employees to backfill specific positions, and although we remain below our FY2019 funded 117 FTE, we will need to hire in order to achieve the 100 employees proposed in the 2020 budget.”

The Board contracted with the National Academy of Public Administration (NAPA) to perform a comprehensive assessment of the Board’s operations. In November 2018, NAPA issued its report, which provided numerous recommendations for improving the Board’s operations and mission effectiveness. The Board has begun to discuss the NAPA recommendations, identify corrective actions, and will continue this effort in 2019. The Board is currently exploring another contract with NAPA to review and revise the Board’s strategic plan for the next five years.

The Board’s Office of Inspector General (OIG) completed five assessments on Board programs during Fiscal Year 2018, including its Assessment of the Most Serious Management and Performance Challenges Facing DNFSB in Fiscal Year 2018. The Independent Evaluation of DNFSB’s Implementation of the Federal Information Security Modernization Act (FISMA) of 2014 for Fiscal Year 2017, (DNFSB-18-A-02) resulted in two recommendations to strengthen the information security program. The Board will continue to support the Inspector General’s audits of the Board’s operations. Chairman Cooper, Ranking Member Turner, thank you again

for the opportunity to be here today. We at the Board look forward to working with this Subcommittee and I stand ready to respond to any questions you may have.