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The Secretary of Energy

Washington, DC 20585

November 26, 2024

The Honorable Joyce L. Connery
Chair
Defense Nuclear Facilities Safety Board
625 Indiana Avenue NW, Suite 700
Washington, DC 20004

Dear Chair Connery:

This letter is in response to the Defense Nuclear Facilities Safety Board (DNFSB or Board) letter dated December 5, 2023, regarding revision to DOE Order 425.1D, *Verification of Readiness to Start Up or Restart Nuclear Facilities*. This letter and enclosed report follow and reflect the outcomes of the Department of Energy's (DOE or Department) briefing to the Board on June 13, 2024.

The December 5, 2023, DNFSB letter discussed two concerns relating to DOE's changes to Order 425.1D, which would allow, under specific, limited conditions: (1) Hazard Category 1, 2 or 3 facilities to shut down for up to 18 months without requiring restart readiness reviews; and (2) parallel contractor and DOE readiness reviews. DOE's response to these concerns is detailed in the enclosed report.

The recently issued Order 425.1E ensures that safety oversight will not be degraded at defense nuclear facilities and will not compromise DOE line management's verification of readiness. As noted in the June 13, 2024, briefing, Order 425.1E will not be implemented until one year after the issuance of the revision to DOE-STD-3006-2010, *Planning and Conducting Readiness Reviews*.

The Department appreciates the DNFSB's insights in our efforts to revise DOE Order 425.1D. If you have any questions, please contact Mr. Todd Lapointe, Director, Office of Environment, Health, Safety and Security, at (202) 586-6740.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Granholm", is positioned above the name Jennifer Granholm.

Jennifer Granholm

Enclosure

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REPORT RESPONDING TO DNFSB DECEMBER 5, 2023, LETTER RE: DOE O 425.1E

The following addresses the two issues regarding DOE Order (O) 425.1E raised in the Board's letter:

1) Allowing Facility Shutdown up to 18 Months Without Requiring Restart Readiness Reviews

DOE Order (O) 425.1D, *Verification of Readiness to Start up or Restart Nuclear Facilities*, requires Readiness Assessments prior to restart after extended shutdowns for nuclear facilities, activities, or operations. Extended shutdowns for Hazard Category (HC) 1 nuclear facilities, activities, and operations periods are more than 6 months, unless the Program Secretarial Officer /Cognizant Secretarial Officer (PSO/CSO) approves and the Central Technical Authority (CTA) concurs for an extended period of up to a maximum of 12 months. For HC 2 and 3 nuclear facilities, activities, and operations, an extended shutdown period is 12 months.

DOE O 425.1E requires Readiness Reviews (RRs) for restarts after extended shutdowns. Based on significant feedback since the issuance of DOE O 425.1D and the rigor that goes into maintaining HC 1 facilities, the extended shutdown was adjusted from 6 to 12 months for HC 1 nuclear facilities, activities, and operations. For HC 2 and 3 nuclear facilities, activities, and operations, an extended shutdown period is also 12 months. DOE O 425.1E also allows for a shutdown to be extended up to an 18-month period without requiring a RR with technical justification, PSO/CSO approval, and CTA concurrence. Guidance for technical justifications will be provided in the subsequent revision to DOE-STD-3006-2010

DOE sites have been challenged, at times, to resume operations in nuclear facilities in order to avoid the 12-month readiness certification expiration under the current Order. Once the 12-month time period is exceeded, readiness reviews must be conducted again, regardless of safety needs, which has proven to impact mission work planning, as well as require additional resources without any benefit to the safety of the facilities.

The revised Standard will include criteria enabling the maintenance of readiness beyond the 12-month time criteria for certain cases. The criteria will address the main concerns when nuclear operations are not performed for an extended time period, including: (1) competency of personnel; (2) safe and reliable operation of facilities and equipment; and (3) accommodation of internal or interfacing process changes arising after previous nuclear operations. Readiness maintenance includes actions to address personnel competency (qualification and proficiency), maintenance of facility and equipment, procedure accuracy and viability, and overall readiness to operate.

The Department concludes that the change allowing up to 18 months for an extended shutdown of HC 1, 2 and 3 facilities without conducting RRs is appropriate, given the technical justifications and approvals required, and the change will not degrade the safety of any of our startup or restart activities or facilities.

2) Parallel Contractor and DOE Readiness Reviews

DOE and Contractor RRs are routinely performed in series. However, there are limited circumstances where RRs conducted in parallel may be advantageous. For instance, the parallel review may offer a unique opportunity to determine the adequacy of the contractor RR. While the adequacy of contractors' RRs is always a consideration during the performance of a DOE RR, the parallel review offers the opportunity to make that determination by direct, real-time observation of the contractors' RRs while it is in progress.

DOE Order 425.1D provides no guidance specific to parallel reviews. DOE-STD-3006-2010, *Planning and Conducting Readiness Reviews*, states, "Local implementing procedures for Readiness Assessments (RAs) should provide detailed processes and expectations for the unique aspects of RAs permitted in the Order such as use of checklists and parallel accomplishment of contractor and DOE RAs." Additionally, DOE-STD-3006-2010 leaves the approval of parallel reviews with the Startup Authorization Authority (SAA).

DOE O 425.1E permits parallel reviews in limited circumstances and defines a Parallel Review as an optional, collaborative effort that is intended to reduce the time for restart without compromising safety or the independence of the Contractor and DOE RRs. A parallel review allows both entities to review information and activities concurrently, rather than sequentially. If utilized, the parallel review scope would be described in the Startup Notification Report (SNR) and have a DOE official as the SAA.

DOE O 425.1E will prohibits parallel reviews in the following circumstances:

- Initial startup of a newly constructed nuclear facility;
- Initial startup after conversion of an existing facility to a new nuclear mission with new safety basis documentation;
- Restart of nuclear facility, activity, or operation that has upgraded its hazard category to HC 1, or 2, or 3;
- Restart after a DOE management official directs the shutdown of a nuclear facility, activity, or operation for safety reasons;
- Restart after extended shutdown for a Hazard Category 1,2, or 3 nuclear facility, activity, or operation; and
- Startup or restart of facility, activity, or operation as directed by DOE Line Management.

The limited scenarios under DOE O 425.1E allows for parallel reviews including:

- Restart of a HC 1, 2, or 3 nuclear facility, activity, or operation after substantial modification; and
- Initial startup of a new HC 1, 2, or 3 activity or operation after substantial modification within a HC 1, 2, or 3 facility.

Also, serial RRs have historically allowed the parallel performance of certain demonstrations, such as emergency drills and certain operations and maintenance demonstrations. DOE O 425.1E continues this allowance for serial RRs.

Under the scenarios for DOE and contractor RRs performed in series, the SAA typically resides at levels well below the PSO. Requiring PSO/CSO approval/CTA concurrence for these scenarios could have significant programmatic impacts without any benefit to the safety of the facilities or their operations. DOE O 425.1E requires the SNRs to describe and justify why the RRs should be conducted in parallel and how they will be performed independent of one another. SNRs are required to be provided to the PSO/CSOs, and CTAs for informational purposes, and they could intervene, if desired.

In addition, DOE O 425.1E requires localized federal and contractor procedures to describe how the Order requirements will be implemented. These procedures will then be concurred on by federal oversight. The expectation, as described in DOE-STD-3006-2010, is that circumstances, such as parallel reviews, are to be established within localized procedures and then well vetted to ensure that DOE O 425.1E requirements are met.

As a result of DOE's briefing to the Board on June 13, 2024, and subsequent discussions with the DNFSB staff, DOE revised the definition of "Parallel Reviews" to clarify the roles of DOE and contractors during parallel reviews. DOE shared the revised draft O 425.1E with the DNFSB staff. Changes to specifically allow parallel reviews under the defined, limited circumstances, will provide efficiency without compromising the safety of authorizing startup and restart activities.