DEFENSE NUCLEAR FACILITIES SAFETY BOARD
Washington, DC 20004-2901

January 24, 2024

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

Dear Secretary Granholm:

The U.S. Department of Energy's (DOE) safety directives provide requirements and guidance for designing, constructing, operating, and managing safety programs at DOE's defense nuclear facilities. The processes to develop and maintain these directives are described in DOE Order 251.1, *Departmental Directives Program*, which underpins DOE's standards-based approach to nuclear safety.

In 2023, DOE began revising the current version, DOE Order 251.1D, with the goal of improving DOE's directives processes. However, the proposed revision, draft DOE Order 251.1E, lacks fundamental requirements related to the development, revision, and implementation of DOE directives. In many cases, these requirements existed in DOE Order 251.1D, but were removed with the justification that the requirements were cumbersome or were not being effectively implemented. While the Defense Nuclear Facilities Safety Board (Board) supports DOE's goal of improved directives processes, it is vital for DOE Order 251.1 to contain the right set of requirements to support DOE's standards-based organization.

The Board understands revision of this order is in its final stages. The Board advises that the draft order be revised to address the five concerns noted in the enclosure before it is issued. Pursuant to 42 United States Code § 2286b(d), the Board requests a report and briefing from DOE within 60 days from the date of this correspondence regarding DOE's path forward on the revision to this order.

Sincerely,

Joyce L. Connery
Chair

Enclosure

c: Ms. Ingrid Kolb, Director, DOE Office of Management
Mr. Joe Olencz, Director, DOE Office of the Departmental Representative to the DNFSB

ENCLOSURE

Issues with Draft DOE Order 251.1E

The processes to develop and maintain U.S. Department of Energy (DOE) directives are described in DOE Order 251.1, *Departmental Directives Program*, which is managed by the DOE Directives Program in the Office of Management.

Background. DOE began revising DOE Order 251.1D after the Deputy Secretary issued a memorandum to heads of departmental elements on March 31, 2023, focused on improving the DOE directives process. The revision of DOE Order 251.1D removed a significant number of fundamental requirements related to the development, revision, and implementation of directives, with the primary justification being that these requirements were either cumbersome or were not being effectively implemented. The Defense Nuclear Facilities Safety Board's (Board) staff provided substantial comments on the proposed revisions and discussed them with DOE. While DOE resolved some of the staff's comments, the Board still has significant safety concerns with draft DOE Order 251.1E.

Discussion. The Board has identified the five significant safety concerns discussed below with the current version of draft DOE Order 251.1E.

Prioritization Criteria—In order to determine which DOE directives needed to be revised or developed, DOE Order 251.1D contained a list of prioritization criteria. These prioritization criteria included items such as critical nuclear safety updates and critical safety issues. Draft DOE Order 251.1E does not include the prioritization criteria for revising DOE directives and did not include any other requirements to ensure that safety directives remain accurate and current. In discussions with the Board's staff, the Directives Program Office indicated that the reason for this removal was that many of the Offices of Primary Responsibility (OPR)[1] were not following the criteria. Further, the Directives Program Office stated it cannot force OPRs to develop or revise their directives. The Board notes that many DOE directives have not been updated in more than five years, and some for much longer. While the draft order states OPRs must provide a list of planned directives actions for the coming year to the Directives Program Office, the draft order does not have criteria for how OPRs select directives for action. DOE Order 251.1 should contain requirements to drive appropriate directive actions to address safety issues. This could be prioritization criteria, or a mandatory review cycle (e.g., once every five years) for safety directives to ensure reviews for accuracy and relevancy occur on a regular basis.

Core Directives Processes—The draft order lacks some key directives process requirements and defined terms, some of which were removed from the current version, DOE Order 251.1D. Instead, the draft order requires the Directives Program Office to develop

[1] The "OPR" term is used in draft DOE Order 251.1E and replaces the term "Office of Primary Interest (OPI)" used in the current version, DOE Order 251.1D. DOE intends to use "OPR" going forward to refer to the DOE office responsible for originating a directive and maintaining its accuracy and currency.

Directives Review Board[2] (DRB)-approved processes (e.g., administrative changes, expedited revisions, a prioritization process) for implementing the requirements within this order and making them available on a website. The order should explicitly state and define these processes, even if implementation details are retained on a website. In addition, some key implementation details should be contained within the order as requirements. For example, DOE Order 251.1E should contain a requirement for the OPR to engage with stakeholders during development of the first draft, and the review and comment period of directive revisions. This requirement would improve transparency and inclusiveness of the directives development process and ensure that stakeholders' concerns are considered. As another example, given the vital role of subject matter experts in ensuring DOE safety directives are accurate and comprehensive, the order should include a required process to define and assign subject matter experts who possess sufficient knowledge and capabilities to be involved with each directive revision.

During discussions with the Board's staff, the Directives Program Office noted that these processes are maintained on the directives website to allow for flexibility when parts of the process change. DRB will review and approve changes to processes maintained on the website, but other stakeholders lack visibility into those changes, and are not afforded the opportunity to provide feedback. While this may be appropriate in some instances, the processes discussed above should be explicitly included in the order to prevent changes without appropriate levels of review and approval.

Communication between Directives Writers and Users—Ensuring that directives are implemented effectively is a key element of a directives program. DOE Order 251.1D had a requirement for DRB to seek feedback on implementation of new or revised directives after they had been fully implemented. This requirement was removed in the draft order. During discussions with the Board's staff, the Directives Program Office indicated that this requirement was not being met and that this may be due to a lack of active communication between directives writers and those who are responsible for implementing those directives. Instead, the Directives Program Office indicated it would be up to those implementing the directives to identify any implementation issues and, at their discretion, communicate the issues back to OPR through their directives point of contact. The Board is concerned with this observation, as a lack of effective communication between directives writers and users of safety directives could result in not identifying potential implementation issues. Removal of this requirement is not the appropriate response to the lack of communication between writers and users of directives. The requirement to seek feedback on the implementation of a new or revised directive should be retained and DOE should ensure that it is met to drive effective communication.

Invoked Technical Standards—If a DOE directive invokes a technical standard, then the standard becomes a requirements document in accordance with the applicability and conditions described in the invoking directive. Invoked technical standards are essentially as important as directives, but DOE provides limited information on invoking standards. DOE Order 251.1D and the proposed revision define invoked technical standards (DOE technical standards and

[2] DRB is the group of senior executives charged with ensuring the DOE Directives Program contains directives that enhance DOE's ability to achieve its mission goals in a safe, secure, and cost-effective manner. DRB advises as well as concurs, on individual directives before the Deputy Secretary approves them for final issuance.

voluntary consensus standards (VCS)) and assign responsibilities regarding these standards. However, there is no process for determining which standards should be invoked, who is responsible for making that decision, and what criteria are appropriate for determining when to invoke standards. Due to insufficient information on categorizing invoked safety-related technical standards, it is difficult to maintain a consistent approach, which could result in inadequate safety requirements, and preferred DOE methods may not be implemented or updated. As examples, DOE Standard 1066, *Fire Protection*, and DOE Standard 1195, *Design of Safety Significant Safety Instrumented Systems Used at DOE Nonreactor Nuclear Facilities,* are two safety-related DOE standards that are not invoked. DOE Order 251.1E should contain additional information on the process used to invoke safety-related technical standards, including clear criteria for when invoking technical standards is appropriate.

Decoupled Order and Invoked Technical Standards—Invoked standards may be revised, however, there is no requirement that drives a subsequent revision to the DOE order that invokes a revised standard. Therefore, a DOE order may invoke an outdated standard. DOE Order 251.1D has the requirement that if a draft order invokes a standard that is in draft form, those revisions must be coordinated concurrently. This requirement was removed in draft DOE Order 251.1E, and the Directives Program Office indicated this was due to delays in issuing revisions of DOE orders caused by delays in revising DOE technical standards. However, even if this requirement were retained, it would only deal with cases in which both the order and standard were being revised concurrently and would not address the overall concern that an invoked standard could be revised with no subsequent revision to the associated order.

There should be a requirement to revise the corresponding DOE order soon after an invoked DOE technical standard is issued to ensure that field offices and site contractors are implementing the newest versions of safety-related technical standards. In the case of VCSs, the Board acknowledges that DOE may choose not to invoke a new revision of a VCS. Nevertheless, there should be a requirement to at least evaluate an invoked VCS soon after it is revised, to determine whether a DOE order should be revised to invoke the revised VCS.