



## Department of Energy

Washington, DC 20585

June 13, 2023

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

Dear Chair Connery:

This letter is to notify you that the Department of Energy (DOE) has completed Deliverable 5.2.2, *Development of STD-1027 Revision Project Scope and Project Justification Statement*, and Deliverable 5.5.1, *Development of STD-1104 Revision Scope and Project Justification Statement*, of the Department's Implementation Plan (IP) for Recommendation 2020-1, *Nuclear Safety Requirements*, dated June 27, 2022. Enclosed are copies of these two deliverables.

The Department appreciates the input from the Defense Nuclear Facilities Safety Board staff, and we look forward to continued collaboration.

If you have any questions, please contact me at 301-903-7440.

Sincerely,

A handwritten signature in black ink, appearing to read "Garrett Smith".

Garrett Smith  
Acting Deputy Director for Environment,  
Health and Safety  
Office of Environment, Health, Safety and  
Security  
Responsible Manager, Recommendation  
2020-1, *Nuclear Safety Requirements*,  
Implementation Plan

Enclosure

**Project Justification Statement for Revising  
DOE Standard-1027-2018, Hazard Categorization of DOE Nuclear Facilities**

**1. Title: DOE Standard-1027-2018, Hazard Categorization of DOE Nuclear Facilities**

The proposed project is an update to Department of Energy (DOE or the Department)- Standard (STD)-1027-2018, *Hazard Categorization of DOE Nuclear Facilities*. The potential updates are intended to be technical and administrative in nature. This includes items identified by the Department since the 2018 update to the Standard, as well as items identified during the update which were out of scope at the time. Consideration will also be given to items identified by the Defense Nuclear Facilities Safety Board (DNFSB or the Board) in Recommendation 2020-1, *Nuclear Safety Requirements*.

This update will lay the foundation for regulatory improvements to Title 10 Code of Federal Regulation (CFR) Part 830, *Nuclear Safety Management*, Subpart B, *Safety Basis Requirements*, that will improve clarity and regulatory certainty for the categorization of DOE nuclear facilities. For facility hazard categorization, 10 CFR 830.202 (b)(3), states that DOE nuclear facilities must:

“Categorize the facility **consistent with** DOE-STD-1027-92, (“Hazard Categorization and Accident Analysis Techniques for compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports,” Change Notice (CN) 1, September 1997). [emphasis added].

The Department cites the language “consistent with”, quoted above, as part of the basis for allowing the use of multiple hazard categorization standards documents. Currently, the Department, including NNSA, have authorized the use of the following standards and supplemental guides as effective in fulfilling the requirements of 10 CFR Part 830.202(b)(3):

1. DOE-STD-1027-1992, CN 1, *Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports*;
2. DOE-STD-1027-2018, CN 1, *Hazard Categorization of DOE Nuclear Facilities*; and
3. NA-SD-1027, CN 2, *Guidance on Using Release Fraction and Modern Dosimetric Information Consistently With DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports*, CN No. 1.

On March 8, 2023, consistent with the Implementation Plan for Recommendation 2020-1, the Department issued *Regulatory Analysis of Potential Changes to Department of Energy Hazard Categorization Requirements* (referred to as the Regulatory Analysis). This document systematically assessed the benefits and drawbacks of various regulatory approaches to addressing the necessary updates to hazard categorization methodologies Department wide.

The conclusion of this report is to utilize the Department’s standards development program to update DOE-STD-1027-2018 and consolidate any content from the other approved DOE hazard

categorization methodologies. As a result, the proposed project is necessary to complete this action and will be properly incorporated by reference into 10 CFR Part 830 as the single approved methodology for future hazard categorization determinations at DOE nuclear facilities<sup>1</sup>.

**2. Organization Name/Code**

Office of Nuclear Safety Basis and Facility Design (EHSS-31)  
Office of Nuclear Safety (EHSS-30),  
Office of Environment, Health, Safety, and Security

**3. Author's Name**

Author's Name: Jessica Kratchman, DrPH

E-mail: Jessica.kratchman@hq.doe.gov

Signature:  Digitally signed by JESSICA KRATCHMAN  
Date: 2023.04.20 16:12:51 -04'00'

**4. Senior Level Manager**

Senior Line Manager: Larry Perkins

Phone: 865-599-3636

E-mail: larry.perkins@hq.doe.gov

Signature:  Digitally signed by LARRY PERKINS  
Date: 2023.04.20 19:27:41 -04'00'

**5. How will this new or proposed revision to the DOE Standard support the DOE?**

The updates to DOE-STD-1027-2018 will include items identified by the Department since the 2018 update to the Standard, as well as items identified during the update which were out of scope at the time. Consideration will also be given to items identified by DNFSB or the Board in Recommendation 2020-1, *Nuclear Safety Requirements*. This update will lay the foundation for regulatory improvements to 10 CFR Part 830, *Nuclear Safety Management*, Subpart B, *Safety Basis Requirements*, and will improve clarity for the categorization of DOE nuclear facilities. Further, this update will also fulfil commitments made by the Department in the Implementation Plan to Recommendation 2020-1 and the resultant regulatory analysis.

**6. After conducting a search for Voluntary Consensus Standards (VCSs), what possible standards could be used in lieu of developing or revising the subject DOE Standard?**

None.

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<sup>1</sup> As stated in the Regulatory Analysis, while the updated standard will be “applicable to all existing and new DOE nuclear facilities...existing facilities [will not need] to change or update their established hazard categorization unless the facility significantly changes the material at risk or meets any other criteria that may be established for reevaluating hazard categorizations in later phases of the implementation process.”

**7. Provide detailed justification for the PA's decision not to use potentially applicable VCSs in lieu of developing or revising a DOE Technical Standard.**

There are no VCSs that could be used in lieu of updating DOE-STD-1027-2018. The hazard categorization methodology is specific to DOE sites and would not be available through an external source. Further, an externally developed VCS would not fulfil the commitments made by the Secretary in her response to Recommendation 2020-1.

**8. Will this new or proposed revision to the DOE Technical Standard have an impact on any DOE Directives or a Rule? If so, please list the impacted Directive(s) or Rule(s).**

Updates to DOE-STD-1027-2018 will impact the use of the three approved hazard categorization methodologies (listed below) by providing a single standard for future categorizations. Ultimately this will impact the hazard categorization requirements in the 10 CFR 830:

- DOE-STD-1027-1992, CN 1, *Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports*;
- DOE-STD-1027-2018, CN 1, *Hazard Categorization of DOE Nuclear Facilities*; and
- NA-SD-1027, CN 2, *Guidance on Using Release Fraction and Modern Dosimetric Information Consistently With DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports*, CN No. 1.
- 10 CFR Part 830.202(b).

**9. Provide reasoning for selecting document types (DOE Standard, DOE Handbook, DOE Specification).**

To satisfy 10 CFR Part 830, a standard methodology must be used; therefore, other document types within the DOE Technical Standard Program, such as a Handbook that provides recommended practices, are not appropriate. Further, this is the approved approach consistent with the Implementation Plan and Regulatory Analysis for Recommendation 2020-1.

**10. Provide an anticipated timeline for process milestones.**

<b>Milestones</b>	<b>Target Dates*</b>
Planned start date for draft standard development	4/17/2023
Prepare draft for Revcom	11/6/2023
Review and Comment Phase	2/5/2024
Response Package Development	3/19/2024
Response Negotiation	4/30/2024
Final Concurrence	5/14/2024
Approval and issuance date	5/17/2024

\*Adjusted for federal holidays and weekends.

**Project Justification Statement for Revising DOE-STD-1104-2016, *Review and Approval of Nuclear Facility Safety Basis and Safety Design Basis Documents***

**1. Title: *Review and Approval of Nuclear Facility Safety Basis and Safety Design Basis Documents.***

This proposed project justification statement (PJS) revises the previous PJS approved in October 2020. The revised proposed project scope is to provide a change to DOE Standard (STD)-1104-2016, *Review and Approval of Nuclear Facility Safety Basis and Safety Design Basis Documents.*

**2. Organization Name/Code**

Office of Nuclear Safety Basis and Facility Design (EHSS-31)

Office of Nuclear Safety (EHSS-30) within the Office of Environment, Health, Safety and Security

**3. Author's Name**

Author's Name: Caroline Garzon

Phone: 301-903-8275

E-mail: [caroline.garzon@hq.doe.gov](mailto:caroline.garzon@hq.doe.gov)

Signature: Caroline D. Garzon Digitally signed by Caroline D. Garzon  
Date: 2023.05.05 12:53:39 -04'00'

#### 4. Senior Level Manager

Senior Line Manager: Larry Perkins  
Phone: 865-599-3636  
E-mail: larry.perkins@hq.doe.gov

Signature: Larry W. Perkins Digitally signed by Larry W. Perkins  
Date: 2023.05.07 08:28:20 -04'00'

#### 5. How will this new technical standard support the DOE?

The focus of this revision is to update the standard to align with other revised policy documents, including: the final rule change of 10 CFR 830, *Nuclear Safety Requirements*, published on October 19, 2020, and safety basis related policy changes (DOE directives and technical standards) in response to Recommendation 2020-1, *Nuclear Safety Requirements*.

10 CFR Part 830 was revised to remove the requirement for DOE to review and approve the annual DSA update. STD-1104-2016 addresses the review of DSA Annual Updates in Section 7.1.2. To implement the Rule change, this Standard would need to be revised to remove and/or modify Section 7.1.2.

Additionally, new requirements related to nuclear safety basis are being developed at the Order level covering the topics of Technical Safety Requirements, Specific Administrative Controls, Unreviewed Safety Questions, and Justifications for Continued Operations. The Standard will be updated to include review and approval criteria for these topics.

Additionally, minor corrections and clarifying edits will be considered.

#### 6. List possible Voluntary Consensus Standards (VCS) that were considered for use in lieu of developing or revising the subject Standard.

No consensus standard currently exists for providing criteria and acceptable methodology for reviewing safety basis and safety design basis documents to fully meet 10 CFR Part 830, Subpart B, requirements. DOE requirements and methods are unique.

#### 7. Provide detailed justification for the PA's decision not to use potentially applicable VCSs in lieu of developing or revising a DOE Technical Standard.

No voluntary consensus standards exist that would meet this need. DOE has unique safety basis requirements in 10 CFR 830, Subpart B; these unique requirements are not addressed in existing voluntary consensus standards.

#### 8. Will this new or proposed revision to the DOE Technical Standard have an effect on any DOE Directives or a Rule?

This standard is invoked as a required method in DOE Order 420.1C, *Facility Safety*, which states: “DOE Elements must ...Review and approve safety basis and safety design basis documents in accordance with DOE-STD-1104-2016, *Review and Approval of Nuclear Facility Safety Basis and Safety Design Basis Documents* [Section 4.i].” This DOE Order requirement and associated references will need to be updated to point to the new version. In addition, DOE Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, also references DOE-STD-1104-2016 as an invoked technical standard and will also need to be updated.

**9. Provide reasoning for selecting document types (DOE Standard, DOE handbook, DOE Spec.)**

To satisfy 10 CFR 830, a standard methodology must be used for reviewing safety basis documents; therefore other document types within the DOE Technical Standard Program (TSP), such as a Handbook that provides at most recommended practices, are not appropriate. The Secretary of Energy approved making DOE-STD-1104-2014 a required technical method in an October 18, 2014 letter to the Defense Nuclear Facilities Safety Board.

**10. Provide an anticipated timeline for process milestones.**

<b>Milestones</b>	<b>Target Dates</b>
Planned start date for draft standard development	December 2023
Prepare draft for Revcom	December 2023 - April 2024
Review and Comment Phase – 60 calendar days	May-June 2024
Response Package Development – 30 calendar days	July 2024
Response Negotiation – 30 calendar days	August 2024
Final Concurrence – 10 business days	September 2024
Approval and issuance date	October/November 2024