

DOE Technical Standards Program Project Justification Statement for the Proposed Nuclear Material Packaging Standard

1. Title:

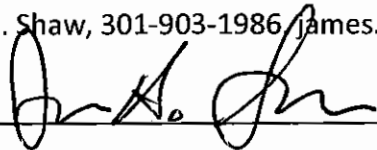
DOE-STD-XXXX-YR, *Nuclear Material Packaging*

2. Organization Name/Code:

Office of Quality Assurance and Nuclear Safety Management Programs (AU-32)
Office of Nuclear Safety (AU-30)
Office of Environment, Health, Safety, and Security (AU)

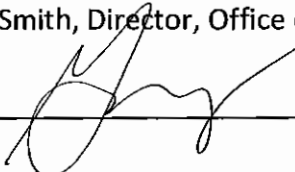
3. Author's Name and Signature (Contact Information: Phone, E-mail):

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4. Senior Line Manager's Name and Signature (First SES-level manager above the author):

Garrett Smith, Director, Office of Nuclear Safety (AU-30)



5. How will this new or proposed revision support DOE? Include details about why this new standard or revision of an existing standard benefits DOE. Is the standard or revision part of an Implementation Plan for Defense Board Recommendations, part of an organization's fiscal year strategic plan, etc.?

The new Standard will carry forward the nuclear material packaging (NMP) requirements detailed in the Directive DOE M 441.1-1, *Nuclear Material Packaging*. The requirements contained in the Manual provide a high level of assurance that personnel handling nuclear material in temporary storage containers will be protected. The DOE nuclear program offices have been effectively utilizing the Manual to support important improvements in their nuclear material packaging operations.

The development of DOE M 441.1-1 was a direct result of a DNFSB recommendation that addressed the issue of substandard nuclear material storage practices at some defense nuclear

facilities. The DFNSB recommended that DOE create a standardized list of nuclear material storage guidelines for all defense nuclear facilities to use, in order to achieve an appropriate level of safety applied equally across the complex, for the protection of facility workers. DOE decided that a Manual would be the best fit directive to detail these complex-wide requirements.

According to DOE O 251.1D, *Departmental Directives Program*, Manuals “are being phased out and canceled or are converted to or incorporated into Orders, as appropriate. Manuals will not be revised and no new Manuals will be created.” Since the current Manual is overdue for a content overhaul/update, this Standard will be developed as a replacement.

The only revision to DOE M 441.1-1, since its creation in 2008, occurred in 2016 and was administrative in nature—no substantial changes to the personnel safety requirements of the Manual. The new NMP Standard will include lessons learned from implementation of the Manual across the DOE complex. Additionally, several requirements detailed in the current Manual require revision and/or clarification. Specific examples include: clarification and technical basis for the term “short duration”; clarification and definition of the terms “sealed sources” and “encapsulated”; surveillance program development and implementation to include approval by Field Element Managers; and clarification of the authorized use of DOT Type “B” shipping containers for nuclear material storage after the over-the-road certification date has expired.

6. List possible Voluntary Consensus Standards (VCS) that were considered for use in lieu of developing or revising the subject Standard. Include details about searches for existing VCSs that could be used in lieu of developing or revising a DOE Technical Standard (i.e., methods or sources used such as Google, Information Handling Services (IHS) database, or National Institute of Standards and Technology (NIST) database, etc.)

An extensive VCS web search using Google was performed, as well as a thorough examination of all active DOE directives and standards on the Department’s websites. Other than the current Manual, there is no standard or similar document that details nuclear material storage/packaging requirements for DOE contractors to adhere to, that includes the various methods/practices that aid the contractor with meeting the requirements. DOE-STD-3013-2012, *Stabilization, Packaging, and Storage of Plutonium-bearing Materials*, addresses similar criteria and requirements but is primarily meant for stabilization and long-term storage (up to 50 years), and addresses only plutonium (no other nuclear materials). Similarly, DOE-STD-3028-2000, *Criteria for Packaging and Storing Uranium-233-bearing Materials*, applies only to U-233-bearing materials.

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 potentially applicable VCSs exist, therefore justification is not required.

8. Will this new or proposed revision to the DOE Technical Standard have an impact on any DOE Directives or a Rule? List the impacted Directive(s) or Rule(s), including justification for invoking a DOE Technical Standard in an Order(s) or other Directives Program requirement documents.

The new NMP Standard will not directly impact any DOE Directive, save for approximating what is already contained in DOE M 441.1-1. The new NMP Standard will carry forward the requirements of the current DOE Directive, so when the Manual is evaluated for continuance and subsequently cancelled, per DOE O 251.1D, the requirements contained in it will be captured in the Standard and can be invoked in facility operations contracts.

9. Provide reasoning for selecting the document type (DOE Standard, DOE Handbook, DOE)

DOE Standard is selected as the document type because, based on the information and level of detail contained in the current Manual, a Standard would convey the safety requirements at the appropriate level of detail while carrying the emphasis to be mandatory, when invoked in the M&O contract. Per DOE O 252.1A, *Technical Standards Program*, DOE Standards "provide specific standardized approaches, methodologies, technical criteria, or other information on accomplishing a task, developing a plan, and/or performing a calculation or assessment to implement a DOE requirement." This is an apt description for the material contained in the NMP Manual.

10. Provide an anticipated timeline for process milestones.

- Planned start date for draft standard development – 12/3/18
- Planned date for draft standard to start coordination – 3/4/19
 - Review and Comment – 60 calendar days (2 months) – Ends 5/6/19
 - Response Package Development – 30 calendar days (1 month) – Ends 6/3/19
 - Response Negotiation – 30 calendar days (1 month) – Ends 7/8/19
 - Final Concurrence – 10 business days
- Planned approval and issuance date – 9/9/19