Department of Energy
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MEMORANDUM FOR INGRID KOLB
DIRECTOR
OFFICE OF MANAGEMENT

THROUGH: KEVIN T. HAGERTY
DIRECTOR
OFFICE OF INFORMATION RESOURCES

FROM: MATTHEW B. MOURY
ACTING ASSOCIATE UNDER SECRETARY
OFFICE OF ENVIRONMENT, HEALTH, SAFETY AND SECUIRTY

SUBJECT: Notice of Intent to Develop a Page Change for Department of Energy Order 420.1C, *Facility Safety*

PURPOSE: This memorandum provides justification to make a Page Change to Department of Energy (DOE) Order (O) 420.1C, *Facility Safety.* This memorandum is an update to the previous Justification Memorandum, approved by the Directives Review Board on June 21, 2013. The Page Change will be strictly limited in scope to changes necessary to accomplish the following objectives: (1) to invoke revised DOE Standard (STD) 1104-20xx, *Review and Approval of Nuclear Facility Safety Basis and Safety Design Basis Document*, as a required method; (2) to invoke revised DOE-STD-3009-20xx, *Preparation of Nonreactor Nuclear Facility Documented Safety Analysis*, as a required method for new nuclear facilities as discussed below; and (3) to make miscellaneous administrative corrections and clarifications based on the one-year implementation review required by DOE O 251.1C, *Departmental Directives Program*.

JUSTIFICATION: DOE-STD-1104-2009 establishes the Department's approach and requirements for reviewing and approving safety basis and safety design basis documents. The Department's approval formally establishes the adequacy of DOE's nuclear facilities for the protection of public health and safety. The previous Justification Memorandum, approved by the Directives Review Board on June 21, 2013, provided the basis for invoking DOE-STD-1104-2009 as a required method.

The Department's Implementation Plan for Defense Nuclear Facilities Safety Board Recommendation 2010-1, *Safety Analysis Requirements for Defining Adequate Protection for the Public and the Workers*, approved by Secretary Chu on September 26, 2011, includes an action to determine the applicability of the DOE-STD-3009 revision. The associated regulatory options paper concludes that DOE-STD-3009 should be invoked as a requirement for new nuclear facilities and major modifications for existing nuclear facilities, except in cases approved by the applicable PSO and concurred upon by the applicable Central Technical Authority. The regulatory options paper also calls for evaluation of existing nuclear facilities with off-site

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mitigated dose estimates exceeding the Evaluation Guideline of 25 rem. For other existing nuclear facilities, the program offices would continue to have flexibility in applying the new Standard (per 10 C.F.R. Part 830, Subpart B, Appendix A, Table 2).

DOE O 251.1C requires an accuracy review one year after directives are issued.
DOE O 420.1C was approved and issued in December 2012. This review has been completed, with significant line input, and several miscellaneous corrections and clarifications have been identified to improve ease of use and effective implementation.

DOE's Standards 1104 and 3009 are in the process of being revised within the DOE Technical Standards Program (TSP). These revisions will be made in parallel with the Page Change to DOE O 420.1C. As required per the TSP, the Office of Health, Safety and Security evaluated whether external consensus standards were available for use in place of these DOE standards and, given the unique aspects of DOE's safety analysis, found that none were available.

IMPACT: The proposed directive does not duplicate existing laws, regulations, or national standards; and it does not create undue burden on the Department.

The proposed changes to DOE O 420.1C to formalize the Department's use of DOE-STD-1104 as a required method will have minimal impact because it is already the general practice. The proposed changes to DOE O 420.1C to require use of the latest version of DOE-STD-3009 as a required method for select nuclear facilities will have minimal impact because these facilities are already required to use DOE-STD-1189 for design. The proposed corrections and clarifications based on the one-year review will have minimal impacts as these are consistent with the original intent of DOE O 420.1C revision.

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Ingrid Kolb, Director, Office of Management (MA-1):

Concur: _____ Nonconcur: _____ Date: 6-5-14

The schedule for completing this page change will be affected by the schedule to develop, review, and approve the ongoing revisions to DOE-STD-1104 and DOE-STD-3009, and will aim to meet the nominal directives development schedule shown below. The development, review, and approval for the Page Change will be in parallel with that for the Technical Standards. The Directives Review Board will be provided with the opportunity to review final draft changes to these Technical Standards prior to concurrence on the invoking language in the Order.

Standard Schedule for Directives Development	Days
Draft Development	Up to 60 days
Review and Comment (RevCom)	30
Comment Resolution	30
Final Review	30
Total	150

Attachment

1. Risk Identification and Assessment

Risk Identification and Assessment

Proposed Page Change to Department of Energy Order 420.1C, *Facility Safety*

Risk	Probability	Impact	Risk Level
People			
1. If DOE-STD-1104 and DOE-STD-3009 are NOT invoked as requirements in DOE O 420.1C, what is the risk that a failure will impact the well-being of an employee or the public?	**Unlikely**	**Low to Medium**	**Minor to Moderate**
Mission			
2. If DOE-STD-1104 and DOE-STD-3009 are NOT invoked as requirements in DOE O 420.1C, what is the risk that accomplishment of the Department's mission will be hindered?	**Unlikely**	**Low to Medium**	**Minor to Moderate**
Assets			
3. If DOE-STD-1104 and DOE-STD-3009 are NOT invoked as requirements in DOE O 420.1C, what is the risk that physical assets will be lost or damaged?	**Rare**	**Low to Medium**	**Minor**
Financial			
4. If DOE-STD-1104 and DOE-STD-3009 are NOT invoked as requirements in DOE O 420.1C, what is the risk that Department funds will be lost or become unavailable?	**Rare**	**Low to Medium**	**Minor**
Customer and Public Trust			
5. If DOE-STD-1104 and DOE-STD-3009 are NOT invoked as requirements in DOE O 420.1C, what is the risk that the Department will suffer damage to its credibility with the public or other stakeholders?	**Unlikely**	**Low to Medium**	**Minor to Moderate**

Gap Analysis of Existing Risks and Controls

Laws	• Atomic Energy Act
External Regulation	• Not Applicable
DOE Regulation	• *10 CFR 830, Nuclear Safety Management*
DOE Orders	• DOE O 420.1C, *Facility Safety*
Contract Controls	• CRD for DOE O 420.1C, *Facility Safety*
External Assessments	• DNFSB Recommendation 2010-1, *Safety Analysis Requirements for Defining Adequate Protection for the Public and the Workers.*

Risk Mitigation Techniques

Risk Assessment for DOE O 420.1C, Proposed Page Change					
Risk/Opportunity	**Risk Level**	**Potential Cost/Benefit**	**External Control(s)**	**Proposed Mitigation Technique**	**Internal Control (if needed)**
Formalize to requirement for DOE personnel to use DOE-STD-1104 as the required method for reviewing and approving safety basis documents.	Medium	Expected Benefits: (1) Expectations will be clarified; (2) Requirements for DSA review and approval will be followed more consistently and completely; (3) Confidence will be increased that DOE review and approval of DSAs assures adequate protection of the public safety. (4) Public trust will be improved.	10 CFR 830	MITIGATION (via Detailed Performance Requirements), specifically: Revise DOE-STD-1104; Add invoking requirement and DOE responsibilities	Presently none; a simple invoking requirement in DOE O 420.1C is needed.
Establish to requirement for to use DOE-STD-3009 as the required method for select nuclear facilities.	Medium	Expected Benefits: (1) Expectations will be clarified; (2) Current expectations for DSA preparation will be followed more consistently and completely; (3) Confidence will be increased that DSAs assures adequate protection of the public safety. (4) Public trust will be improved.	10 CFR 830	MITIGATION (via Detailed Performance Requirements), specifically: Revise DOE-STD-3009; Add invoking requirement and DOE responsibilities	Presently none; a simple invoking requirement in DOE O 420.1C is needed.