



U.S. Nuclear Regulatory Commission
**34th ANNUAL REGULATORY
INFORMATION CONFERENCE**

MARCH 8-10, 2022

**PREPARING FOR
TOMORROW**

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Technical Session W14

Reactor Decommissioning and Low-Level Waste

Status of the Decommissioning Rulemaking

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Regulatory Improvements for Production and Utilization Facilities Transitioning to Decommissioning

- This rulemaking would amend the NRC's regulations to provide an updated regulatory framework for nuclear facilities transitioning from operations to decommissioning. It has the following goals:
 - Maintain a safe, effective, and efficient decommissioning process
 - Reduce the need for license amendment requests and exemptions from existing regulations
 - Address lessons learned from licensees that have completed or are currently in the decommissioning process
 - Align regulatory requirements with the reduction in risk that occurs over time, while continuing to maintain safety and security
 - Address other decommissioning issues deemed relevant by the NRC

Current Status and Next Steps

- Proposed rule published March 3, 2022 (87 FR 12254)
 - 75-day comment period ends May 17, 2022
 - Public meetings
- Final rule/final regulatory guidance
 - Public meeting to discuss implementation
 - Provide to the Commission in fall 2023

12254 Federal Register / Vol. 87, No. 42 / Thursday, March 3, 2022 / Proposed Rules

NUCLEAR REGULATORY COMMISSION

10 CFR Parts 20, 26, 50, 51, 52, 72, 73, 140

[NRC-2015-0070]
 RIN 3150-AJ59

Regulatory Improvements for Production and Utilization Facilities Transitioning to Decommissioning

AGENCY: Nuclear Regulatory Commission.
ACTION: Proposed rule.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is proposing to amend its regulations that relate to the decommissioning of production and utilization facilities. The NRC's goals in amending these regulations are to maintain a safe, effective, and efficient decommissioning process; reduce the need for license amendment requests and exemptions from existing regulations; address other decommissioning issues deemed relevant by the NRC; and support the NRC's Principles of Good Regulation, including openness, clarity, and reliability. The NRC will hold a public meeting to promote full understanding of this proposed rule and to facilitate public comments.

DATES: Submit comments by May 17, 2022. Comments received after this date will be considered if it is practical to do so, but the Commission is able to ensure consideration only for comments received before this date.

ADDRESSES: You may submit comments by the following method (unless this document describes a different method for submitting comments on a specific subject); however, the NRC encourages electronic comment submission through the Federal rulemaking website:

- *Federal Rulemaking Website:* Go to <https://www.regulations.gov> and search for Docket ID NRC-2015-0070. Address questions about NRC dockets to Dawn Forder; telephone: 301-415-3407; email: Dawn.Forder@nrc.gov. For technical questions contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.
- *Email comments to:* Rulemaking.Comments@nrc.gov. If you do not receive an automatic email reply confirming receipt, then contact us at 301-415-1677.
- *Mail comments to:* Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Rulemakings and Adjudications Staff.

For additional direction on obtaining information and submitting comments, see "Obtaining Information and Submitting Comments" in the SUPPLEMENTARY INFORMATION section of this document.

FOR FURTHER INFORMATION CONTACT: Daniel I. Doyle, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-3748; email: Daniel.Doyle@nrc.gov.

SUPPLEMENTARY INFORMATION:

Executive Summary

A. Need for the Regulatory Action

The NRC is proposing to amend its regulations related to the decommissioning of production and utilization facilities. The Commission directed the NRC staff to proceed with an integrated rulemaking on nuclear power reactor decommissioning to address the following: A graded approach to emergency preparedness (EP), lessons learned from the licensees that have already gone through (or are currently going through) the decommissioning process, the advisability of requiring a licensee's post-shutdown decommissioning activities report (PSDAR) to be approved by the NRC, the appropriateness of maintaining the three existing options for decommissioning and the timeframes associated with those options, the appropriate role of State and local governments and non-governmental stakeholders in the decommissioning process, and any other issues deemed relevant by the NRC staff.

Compared to an operating nuclear power reactor, the risk of an offsite radiological release is significantly lower, and the types of possible accidents are significantly fewer, at a nuclear power reactor that has permanently ceased operations and removed fuel from the reactor vessel. As a direct result, there is no need for the NRC to impose new requirements in the areas identified in this rulemaking to address safety or security concerns. Instead, the requirements in decommissioning should be aligned with the reduction in risk that occurs over time, while maintaining safety and security. The decommissioning process can be improved and made more efficient, open, and predictable by reducing the reliance on licensing actions (i.e., license amendment and exemption requests) that reflect this reduction in risk to achieve a sustainable regulatory framework during decommissioning.

The NRC has also determined that changes to the regulations are appropriate with respect to drug and alcohol testing; cyber security; and foreign ownership, control, or domination of a production or utilization facility undergoing decommissioning.

In several areas, the current regulations do not distinguish between provisions that apply to a nuclear power reactor that has permanently ceased operations and provisions that apply to an operating nuclear power reactor. To address this, the NRC is proposing to amend its regulations in several areas to provide a regulatory framework for the transition from operating to decommissioning. This proposed rule is a four-step graded approach that is commensurate with the reduction in radiological risk at four levels of decommissioning: (1) Permanent cessation of operations and permanent removal of all fuel from the reactor vessel, (2) sufficient decay of fuel in the spent fuel pool (SFP) such that it would not reach ignition temperature within 10 hours under adiabatic heatup conditions (i.e., a complete loss of SFP water inventory with no heat loss), (3) transfer of all fuel to dry storage, and (4) removal of all fuel from the site. The graded approach is a fundamental concept for this proposed rule.

Because the current regulatory framework for decommissioning is adequate to protect public health and safety and the common defense and security, many of the new requirements in this proposed rule are alternatives to current requirements.

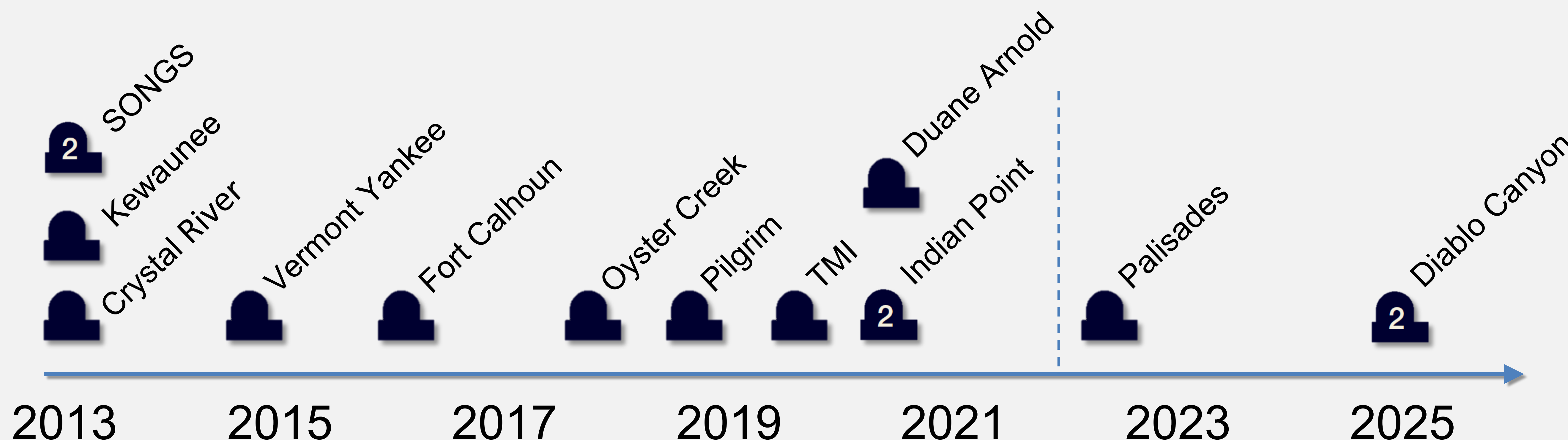
B. Major Provisions

Major provisions of this proposed rule include changes in the following areas:

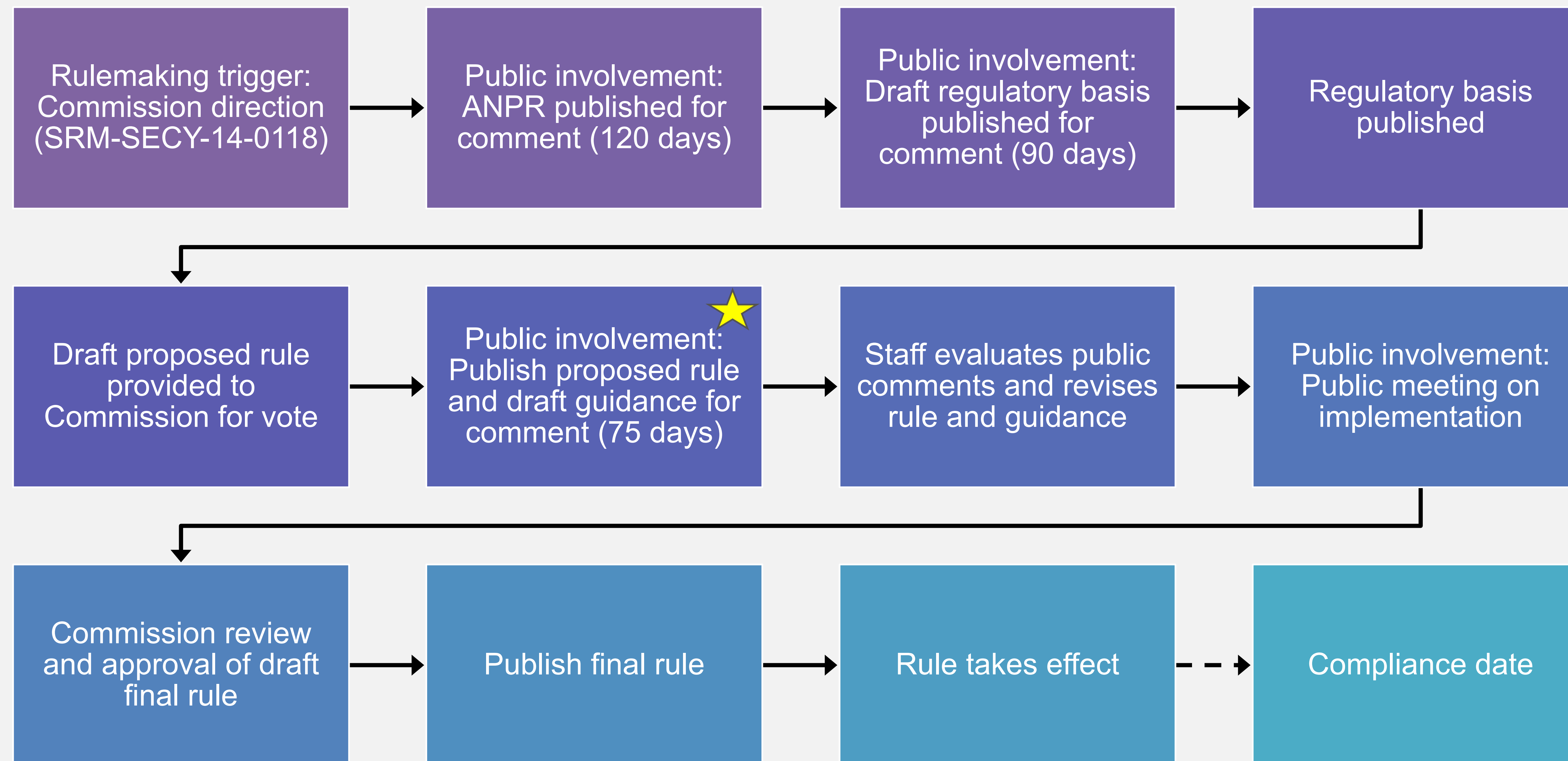
- *Emergency preparedness.* This proposed rule offers an alternative, graded approach to the current requirements for onsite and offsite radiological emergency preparedness at a nuclear power reactor. This approach would provide four levels of emergency planning standards that coincide with significant milestones in decommissioning that reflect the gradual reduction of the radiological risk during decommissioning.
- *Physical security.* This proposed rule would make certain changes that would apply once a nuclear power reactor enters decommissioning. These proposed changes would (1) permit a certified fuel handler (CFH) to approve the temporary suspension of security measures during certain emergency conditions or during severe weather, (2) remove the requirement that a licensee's physical protection program be

Recent and Planned Shutdowns

- Factors affecting licensees' decisions
 - Market factors resulting in a decline in power prices
 - Increasing plant modification, maintenance, and repair costs
- Requests for license amendments, regulatory exemptions, and relief from orders




Decommissioning Rulemaking Process



Regulatory Guidance

- Four guidance documents for public comment:
 - DG-1346, “Emergency Planning for Decommissioning Nuclear Power Reactors” (new)
 - DG-1347, “Decommissioning of Nuclear Power Reactors” (RG 1.184, Rev. 2)
 - DG-1348, “Assuring the Availability of Funds for Decommissioning Production or Utilization Facilities” (RG 1.159, Rev. 3)
 - DG-1349, “Standard Format and Content for Post-Shutdown Decommissioning Activities Report” (RG 1.185, Rev. 2)



U.S. NUCLEAR REGULATORY COMMISSION
DRAFT REGULATORY GUIDE DG-1346
 Revision 1

Proposed new Regulatory Guide 1.235

Issue Date: February 2022
 Technical Lead: Charles Murray

**EMERGENCY PLANNING FOR DECOMMISSIONING
 NUCLEAR POWER REACTORS**

A. INTRODUCTION

Purpose

This regulatory guide (RG) provides decommissioning nuclear power reactor licensees with a method that the staff of the U.S. Nuclear Regulatory Commission (NRC) considers acceptable for use in meeting regulatory requirements for emergency preparedness (EP) in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, “Domestic Licensing of Production and Utilization Facilities” (Ref. 1).

Applicability

This RG applies to applicants and licensees of nuclear power reactors licensed under 10 CFR Part 50 and 10 CFR Part 52, “Licenses, Certifications, and Approvals for Nuclear Power Plants” (Ref. 2).

Applicable Regulations

- 10 CFR Part 50 provides regulations for licensing production and utilization facilities.
 - 10 CFR 50.47, “Emergency plans,” and Appendix E to 10 CFR Part 50, “Emergency Planning and Preparedness for Production and Utilization Facilities,” provides EP requirements for nuclear power reactors.
 - 10 CFR 50.54(q), “Emergency plans,” provides requirements for emergency plan changes.

This RG is being issued in draft form to involve the public in the development of regulatory guidance in this area. It has not received final staff review or approval and does not represent an NRC final staff position. Public comments are being solicited on this draft regulatory guide (DG) and its associated regulatory analysis. Comments should be accompanied by appropriate supporting data. Comments may be submitted through the Federal rulemaking Web site, <https://www.regulations.gov>, by searching for draft regulatory guide DG-1346. Alternatively, comments may be submitted to Office of the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Rulemakings and Adjudications Staff. Comments must be submitted by the date indicated in the *Federal Register* notice.

Electronic copies of this DG and other recently issued guides are available through the NRC’s public Web site under the Regulatory Guides document collection of the NRC Library at <https://www.nrc.gov/readings-rm/doc-collections/reg-guides/>. The DG is also available through the NRC’s Agencywide Documents Access and Management System (ADAMS) at <https://www.nrc.gov/readings-rm/adams.html>, under Accession No. ML21347A046. The regulatory analysis may be found in ADAMS under Accession No. ML22019A132.

Graded Approach

	Docketing of 10 CFR 50.82/ 10 CFR 52.110 Certifications LEVEL 1	Permanent Cessation of Operations + 10 Months (BWR) or 16 Months (PWR) LEVEL 2	All Fuel in Dry Cask Storage LEVEL 3	All Fuel Offsite LEVEL 4
Emergency Preparedness	Post-Shutdown Emergency Plan (PSEP)	Permanently Defueled Emergency Plan (PDEP)	ISFSI Only Emergency Plan (IOEP)	Permanent or interim waste storage available
Physical Security	Allows for certain physical security plan changes without prior NRC approval		Can transition from 10 CFR 73.55 to 10 CFR 73.51 requirements	
Cyber Security		Removal of cyber security requirements		
Onsite/Offsite Insurance		Reduction of onsite insurance to \$50 million Reduction of offsite insurance to \$100 million		



Path Forward

- Public comment period
- Public meetings
- Final rule/final regulatory guidance