

Emergency Preparedness for Small Modular Reactors and Other New Technologies Rulemaking

Public Meeting
May 10, 2017

Introduction

- Provide an overview of the content of the draft regulatory basis,
- Inform the public and stakeholders of the current status, and
- Provide an opportunity to ask clarifying questions to help develop written comments.

Submitting Comments

- The NRC is inviting stakeholders to provide written comments on the draft regulatory basis document.
- Written comments may be submitted by any one of the methods identified in the *Federal Register* notice (82 FR 17768).
- Comment period ends on June 27, 2017.

Draft Regulatory Basis Document

- Available in Agencywide Documents Access and Management System (ADAMS) Accession Number ML16309A332
 - www.regulations.gov using:
 - Rulemaking Identification Number (RIN) 3150-AJ68, or
 - NRC Docket Identification Number: NRC-2015-0225
 - NRC Web page:
<https://www.nrc.gov/reactors/new-reactors/regs-guides-comm/ep-smr-other.html>
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https://www.regulations.gov

The screenshot shows the homepage of regulations.gov. At the top, there is a navigation bar with links for Home, Help, Resources, and Contact Us. Below this is a search bar with the text '3150-AJ68' and a 'Search' button. A prominent banner reads 'Make a difference. Submit your comments and let your voice be heard.' Below the search bar, there are three main sections: 'What's Trending' with a list of recent regulatory actions and their closing dates; 'Comments Due Soon' with a list of upcoming comment periods and the number of comments; and 'Newly Posted' with a list of recent posts and their comment counts. On the right side, there are two featured sections: 'FAA Section 333' and 'APIs for Developers', both with images and links to related content.

Introduction

- Scope and Contents of the draft regulatory basis:
 - Section 1 Background and Developments
 - Section 2 Existing Emergency Preparedness Framework
 - Section 3 Regulatory Issues
 - Section 4 Options for Rulemaking
 - Section 5 Regulatory Considerations
 - Section 6 Stakeholder Interactions
 - Section 7 Timeline and Milestones
 - Section 8 References

Edward Roach
Senior Emergency Preparedness Specialist

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DRAFT REGULATORY BASIS SECTIONS 1 THROUGH 4

Background

- In 2010, the Staff submitted SECY-10-0034, “Potential Policy, Licensing, and Key Technical Issues for Small Modular Nuclear Reactor Designs,” (ADAMS Accession No. ML093290268),
- SECY-11-0152, “Development of an Emergency Planning and Preparedness Framework for Small Modular Reactors,” (ADAMS Accession No. ML112570439), and
- SECY-14-0038, “Performance-Based Framework for Nuclear Power Plant Emergency Preparedness Oversight,” (ADAMS Accession No. ML14260A078).

Background

- In 2015, the staff sought Commission approval to initiate rulemaking to revise emergency preparedness regulations in SECY-15-0077, “Options for Emergency Preparedness for Small Modular Reactors and Other New Technologies,” (ADAMS Accession No. ML15037A176).
 - The Commission approved the staff’s request in the SRM-SECY-15-0077,

Existing Regulatory Framework

- Emergency Preparedness Regulations
 - Title 10 of the Code of Federal Regulations Part 50, section 47 (10 CFR 50.47), “Emergency Plans”
 - Appendix E to 10 CFR Part 50, Emergency Planning and Preparedness for Production and Utilization Facilities”
 - 10 CFR 50.54(q), Emergency Plans, (s), and (t)
 - Technical Content of applications in 10 CFR 50.34, which is also referenced from 10 CFR Part 52.

Emergency Planning Zone Basis

- NUREG-0396 Methodology
 - Distances for Emergency Planning Zones (EPZs)
 - Plume Exposure Pathway EPZ
 - Ingestion Exposure Pathway EPZ
 - Time Dependent Characteristics
 - Types of Radioactive Materials
- Key Component for the rule

Existing Emergency Planning Guidance

- Guidance (<http://www.nrc.gov/about-nrc/emerg-preparedness/regs-guidance-comm.html>)
 - Provides a full complement of guidance on
 - Licensing,
 - Inspections and oversight,
 - Evaluating,
 - Revising plans, and
 - Decommissioning.

Regulatory Issues

- Emergency Planning Zone Sizes
- Spectrum of Accidents and Environmental Consequences
- Operator Staffing and Emergency Response Teams
- Co-Location of Facilities
- Multiple-modular Facilities
- Performance-Based Approach

Regulatory Approaches

- Option 1 –Exemptions and Guidance
 - Maintains the current emergency preparedness regulations in effect.
 - Applicants would request specific exemptions from the existing guidance.
 - New guidance would be developed on how to the exemptions submission and review.

Regulatory Approaches

- Option 2 –Rulemaking
 - Address emergency planning zone boundary determinations
 - Plume Exposure Pathway EPZ
 - Ingestion Exposure Pathway EPZ
 - Technology-inclusive Approach
 - Small Modular Reactors
 - Other New Technologies
 - Non-light-water reactors
 - Medical Isotope Production and Utilization Facilities
 - Consequence-oriented

Staff Recommendation and Basis

- Conduct rulemaking to provide a clear set of rules and guidance on emergency preparedness for small modular reactors and other new technologies,
 - Reduce the need for emergency preparedness exemptions,
 - Provide regulatory stability and predictability,
 - Be effective and more efficient.

Andrew Carrera
Rulemaking Project Manager

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DRAFT REGULATORY BASIS SECTIONS 5 THROUGH 8

Backfitting

- Backfitting and Issue Finality regulations do not apply to this action
- Applies only to future SMRs and ONTs licensees

Cost/benefit Considerations

- **Costs**
 - Cost to applicants to submit exemptions from current EP regulations
 - Costs to applicants to submit emergency plan updates and indicators
 - One time NRC costs for rulemaking
 - **Benefits**
 - Regulatory stability, predictability, and clarity in licensing
 - Incremental averted costs for applicants to adopt an appropriate sized EPZ and performance-based framework
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Stakeholder Interactions

- Public Meetings
 - Conducted since 2010
 - Performance-based approach discussion in 2016
- Governmental and non-governmental organizations
- Nuclear Energy Institute's White Papers
 - Proposed Methodology and Criteria Establishing the Technical Basis for Small Modular Reactor Emergency Planning Zone, December 23, 2013, ML13364A345
 - Proposed Emergency Preparedness Regulations and Guidance for Small Modular Reactor Facilities, July 8, 2015, ML15194A275

Specifically Seeking Input

- Scope of the Draft Regulatory Basis
- Performance-Based Approach
- Regulatory Impacts
- Cumulative Effects of Regulation

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Opportunity to Ask Questions

- Clarifying questions

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