

Emergency Preparedness Rulemaking on Decommissioning and Small Modular Reactors and Other New Technologies

**Robert Kahler, Chief
Policy and Oversight Branch
Division of Preparedness and Response
Office of Nuclear Security and Incident Response**

Decommissioning Rulemaking

- **Current Emergency Preparedness (EP) Regulatory Framework**

- Operating Power Reactor

- 10 CFR 50.47
- 10 CFR 50.54(q), (s), and (t)
- 10 CFR Part 50, Appendix E

- Independent Spent Fuel Storage Installation (ISFSI) and Monitored retrievable (pool) storage (MRS)

- 10 CFR 72.32

- **Current EP Regulatory Framework**

- EP regulations for operating reactors
 - Do not address reduced risk for permanently shutdown and defueled reactors
- Exemptions from regulations grant regulatory relief on a case-by-case basis

Recent



Kewaunee (Wisconsin)
October 2014



Crystal River 3 (Florida)
March 2015

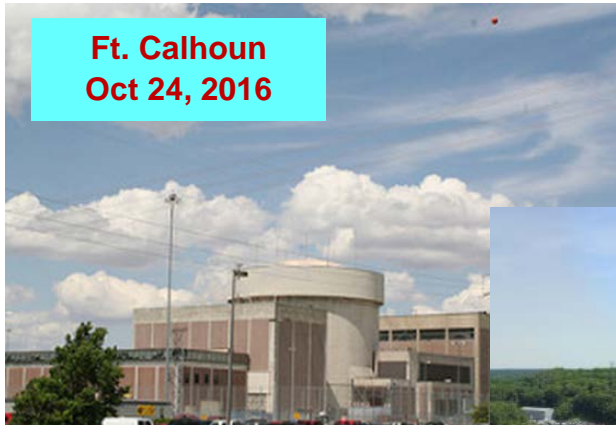


San Onofre (California)
June 2015

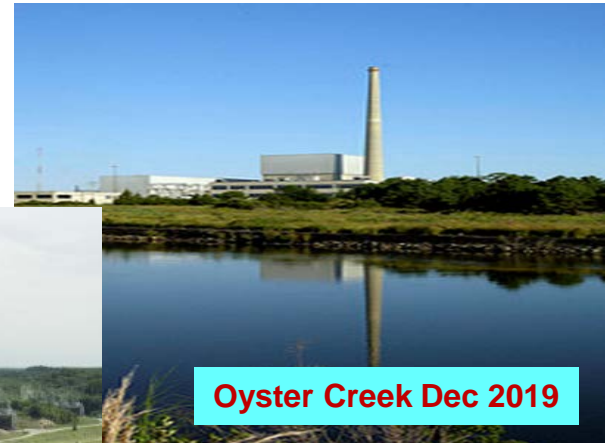


Vermont Yankee (Vermont)
December 2015

Current and Future



Ft. Calhoun
Oct 24, 2016



Oyster Creek Dec 2019



Palisades October 2018



Indian Point
Unit 2 April 2020
Unit 3 April 2021



Pilgrim May 2019

Commission-Directed Rulemaking

- SRM SECY-14-0118
 - Crystal River Exemption Request Approval
- Graded Approach to EP
 - Commensurate with reductions in radiological risk

Rulemaking Goals for Emergency Preparedness

- Maintain reasonable assurance
- Provide regulatory certainty and clarity
- Codify EP decommissioning actions

Advance Notice of Proposed Rulemaking

Published November 19, 2015

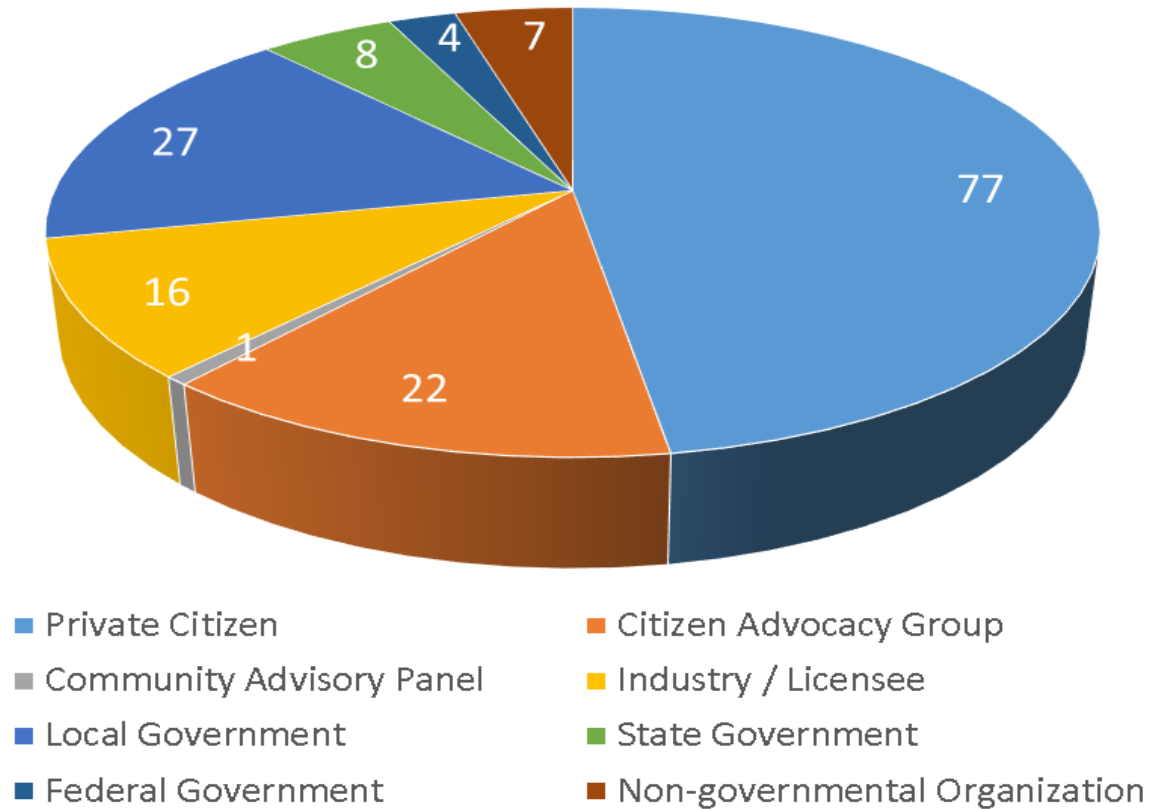
Federal Register (80 FR 72358)

Emergency Preparedness	Physical Security	Fitness for Duty
Training Requirements for Certified Fuel Handlers	Current Regulatory Approach for Decommissioning	Application of Backfitting Protection
Decommissioning Trust Funds	Offsite and Onsite Liability Protection	General Questions (e.g., Cumulative Effects of Regulation)

ANPR Results

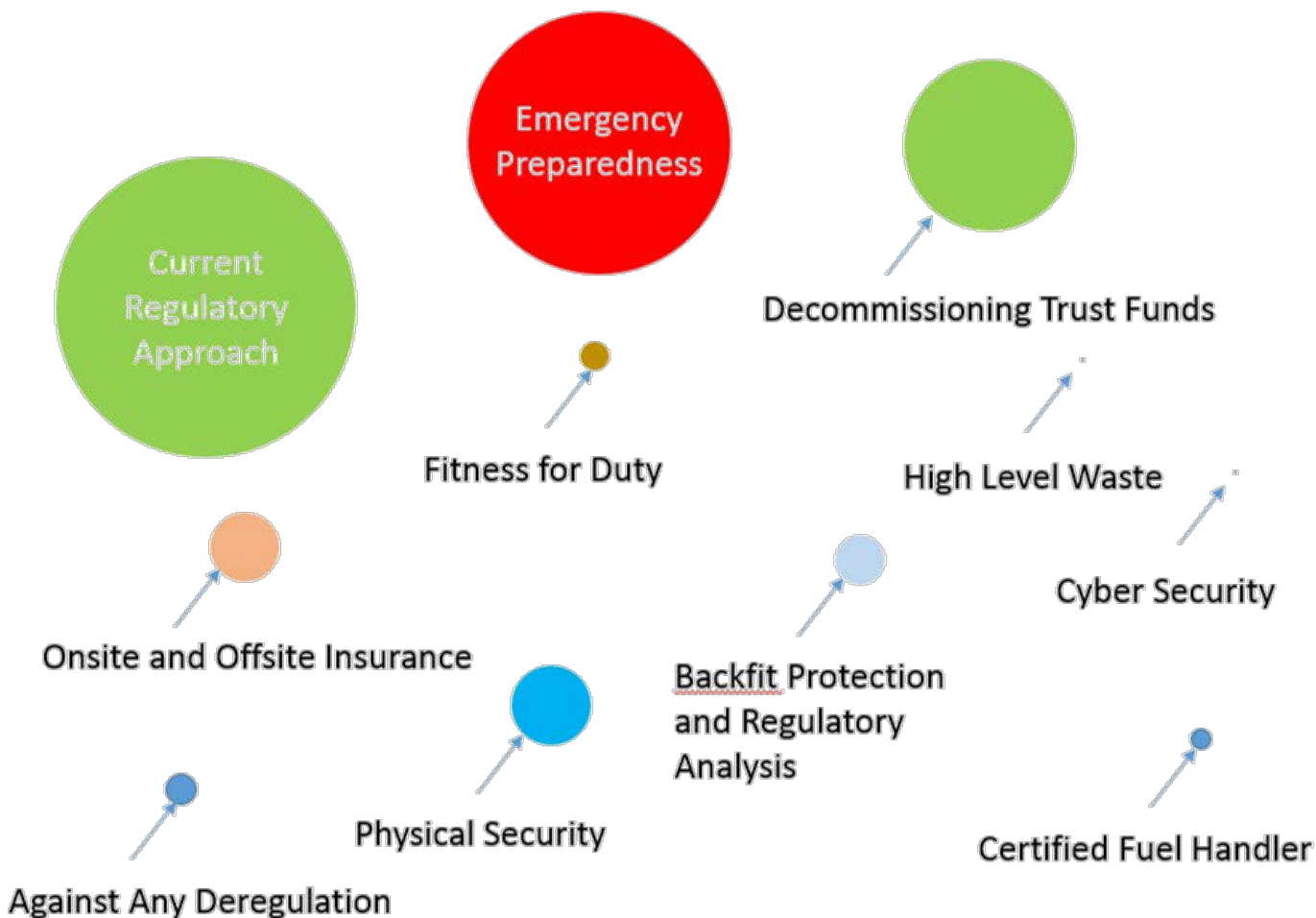
ANPR comment period ended on March 18, 2016

Distribution of 162 Public Comment Submissions by Source



ANPR Areas of Interest

Diameter of circle shows relative number of comments submitted by topic



Draft Regulatory Basis

- 90 Day Public Comment Period
 - March 15, 2017
 - Federal Register Notice 82 FR 13778
 - RIN Number: 3150-AJ59
 - www.Regulations.Gov
 - Docket ID NRC–2015–0070
 - June 13, 2017 public comment period ends
 - ADAMS No. ML17047A413
- EP Research Study
 - ADAMS No. ML16110A416

Illustrative Milestones in Emergency Preparedness

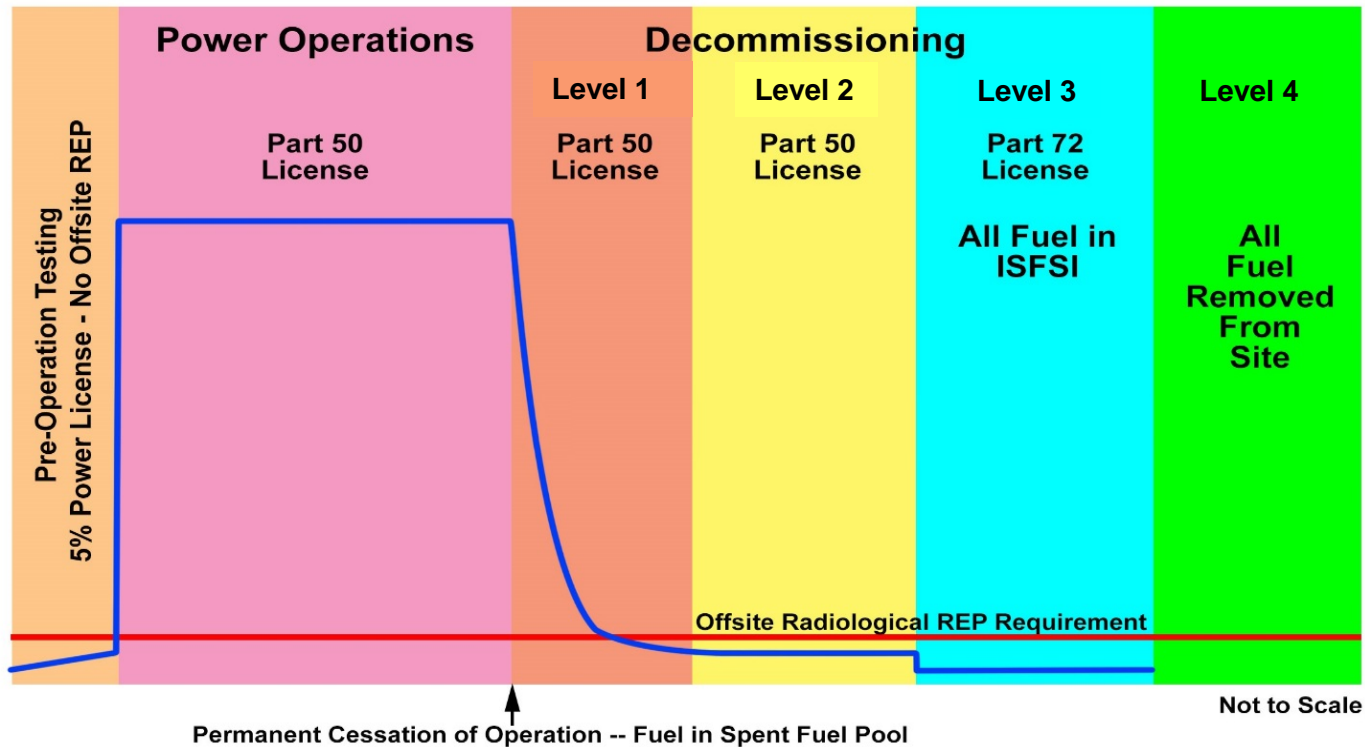
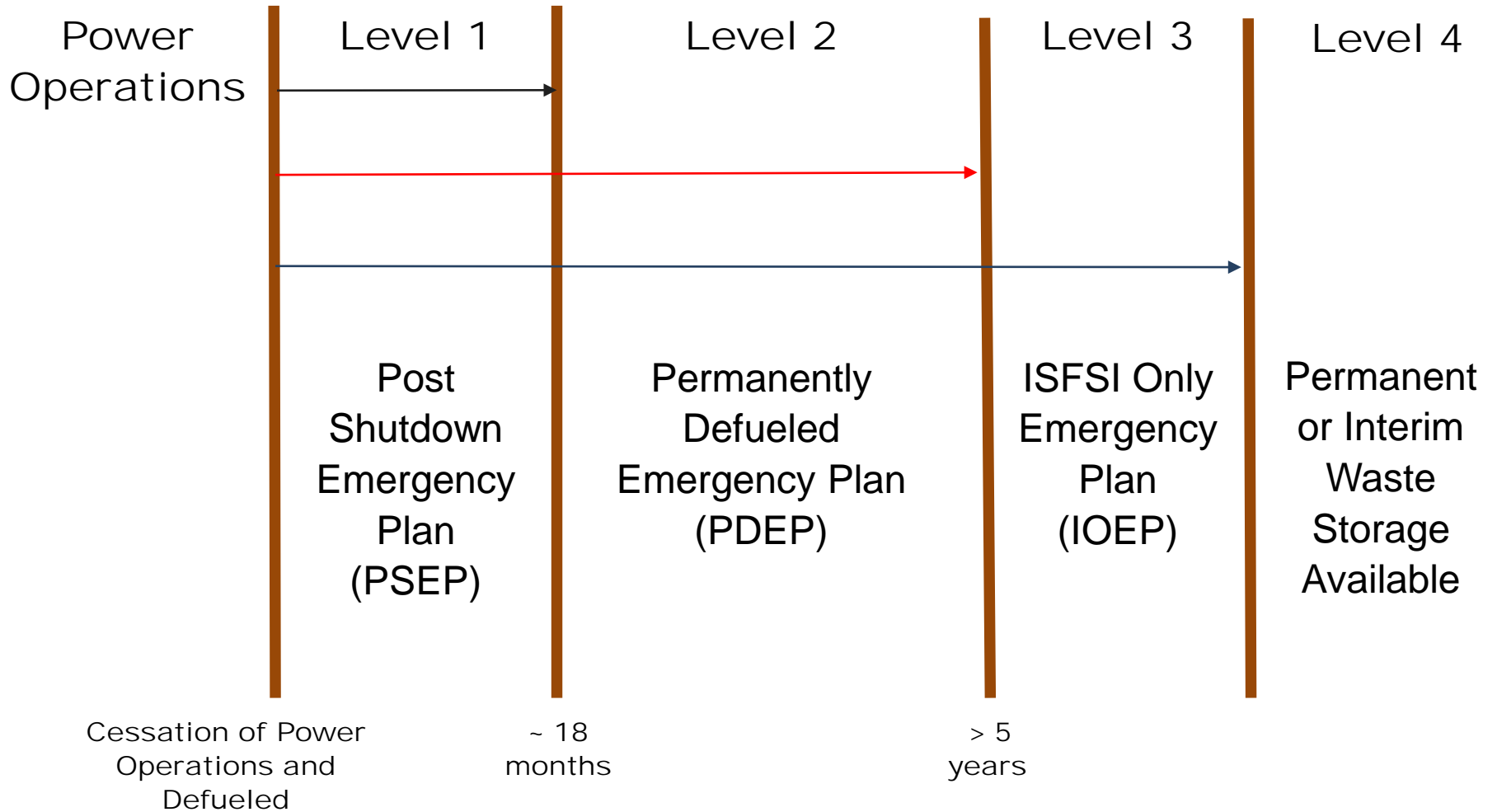


Figure Illustrates the Phases of Plant Operation and the Need for Offsite REP



EP Decommissioning Rulemaking Supporting Research Studies

(ADAMS ML16110A416)

- Three Tasks
 - Analysis of Mitigative Actions
 - Spent Fuel Decay Time
 - Dose Rate of Accidental Radiological Release from Spent Fuel Pool

Future EP Decommissioning Regulations

- Implementation of a graded approach to EP
 - Minimize licensing actions
 - Commensurate with radiological risk
 - Research studies
 - Offsite Radiological Emergency Preparedness
- Change processes
 - Transitioning to Levels
 - Changes within Levels
 - Changes in Classifications and Scheme(s)

Decommissioning Rule Schedule

- Advance Notice of Proposed Rulemaking
 - November 19, 2015
- Draft Regulatory Basis
 - March 15, 2017
- Proposed Rule/Draft Regulatory Guidance
 - Provide to Commission in May 2018
- Final Rule/Final Regulatory Guidance
 - Goal: Provide to the Commission CY2019

Small Modular Reactors (SMRs) & Other New Technologies (ONTs) Rulemaking

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>

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 a magnifying glass icon and the text 'Search'. To the right of the search bar are buttons for 'Browse' and 'Learn'. The main content area features a large banner with the text 'Make a difference. Submit your comments and let your voice be heard.' Below the banner is a search box with the text 'SEARCH for: Rules, Comments, Adjudications or Supporting Documents:' and a search button. The search box contains the text '3150-AJ68'. Below the search box is a section titled 'What's Trending' with a bar chart icon. This section lists several items with their closing dates: 'Organic Research, Promotion, and Information Orders: Certified Products' (closing on Apr 19, 2017), 'Memo opening a comment period for this docket.' (closing on May 15, 2017), 'Federal Motor Vehicle Safety Standards: V2V Communications' (closed on Apr 12, 2017), 'Endangered and Threatened Species: Petition for Rulemaking To Establish a Whale Protection Zone for Southern Resident...' (closing on Apr 13, 2017), and 'Tobacco Product Standard for N-Nitrosomonicotine Level in Finished Smokeless Tobacco Products; Extension of Comment...' (closing on Jul 10, 2017). To the right of the 'What's Trending' section is a section titled 'Comments Due Soon' with a list of items and their due dates: 'Today (55)', 'Next 3 Days (86)', 'Next 7 Days (180)', 'Next 15 Days (367)', 'Next 30 Days (704)', and 'Next 90 Days (1,033)'. Below this is a section titled 'Newly Posted' with a list of items and their posted dates: 'Today (74)', 'Last 3 Days (270)', 'Last 7 Days (488)', 'Last 15 Days (1,022)', 'Last 30 Days (1,998)', and 'Last 90 Days (5,479)'. To the right of the 'Newly Posted' section is a section titled 'APIs for Developers' with a graphic of spheres and a target. Below this is a section titled 'Browse by Category' with a link to 'DOS Regulations Twitter Page'. The bottom of the page features the U.S.NRC logo and the text 'United States Nuclear Regulatory Commission' and 'Protecting People and the Environment'.

regulations.gov
Your Voice in Federal Decision-Making

Home Help Resources Contact Us

Search Browse Learn

Make a difference. Submit your comments and let your voice be heard.

SEARCH for: Rules, Comments, Adjudications or Supporting Documents:

3150-AJ68 Search

> Advanced Search

What's Trending

- Organic Research, Promotion, and Information Orders: Certified Products
Closing on Apr 19, 2017
- Memo opening a comment period for this docket.
Closing on May 15, 2017
- Federal Motor Vehicle Safety Standards: V2V Communications
Closed on Apr 12, 2017
- Endangered and Threatened Species: Petition for Rulemaking To Establish a Whale Protection Zone for Southern Resident...
Closing on Apr 13, 2017
- Tobacco Product Standard for N-Nitrosomonicotine Level in Finished Smokeless Tobacco Products; Extension of Comment...
Closing on Jul 10, 2017

Comments Due Soon

- Today (55)
- Next 3 Days (86)
- Next 7 Days (180)
- Next 15 Days (367)
- Next 30 Days (704)
- Next 90 Days (1,033)

Newly Posted

- Today (74)
- Last 3 Days (270)
- Last 7 Days (488)
- Last 15 Days (1,022)
- Last 30 Days (1,998)
- Last 90 Days (5,479)

APIs for Developers

See how developers are using Regulations.gov APIs!

Browse by Category

DOS Regulations Twitter Page

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

SMR/ONT

The contents of the draft regulatory basis (DRB)

- Provides the framework for rulemaking process.
- Provides the justification of rulemaking.
- Explains the current EP framework.

SMR/ONT

- 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

SMR/ONT

- The draft regulatory basis
 - Considers policy and legal issues
 - Discusses stakeholder interactions,
 - including questions for stakeholders to consider,
 - Used lessons learned from recent licensing of large light water reactors
 - Identifies next steps in the rulemaking process

SMR/ONT

- The draft regulatory basis describes the elements for reasonable assurance determination of adequate protection of public health and safety.

SMR/ONT

- The draft regulatory basis
 - Uses NUREG-0396 approach
 - Presents an option for
 - Consequence-oriented
 - Technology-inclusive

SMR/ONT

- The draft regulatory basis also:
 - Addresses the pre-planned radiological emergency response measures, when warranted, considering
 - Distances
 - Time-dependent characteristics of any releases and doses
 - Isotopic mixes of the radioactive materials

SMR/ONT

- The NRC evaluates the applicant's analysis from the design information:
 - Source Terms
 - Isotopic Mixes
 - Release Pathways
 - Accident Sequences
 - Consequence Analyses
- EP incorporated into design considerations

SMR/ONT

- The design specific information for source terms, release pathways, and accident types used in consequence assessments are needed to determine the sizes of the EPZs.
- This information is included in the analysis for determining the potential radiological doses at various distances from a release point.

Specifically Seeking Input

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

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 (85 FR 17768).
- Comment period ends on June 27, 2017.

Contact Information

Robert Kahler, Chief, NSIR/DPR/POB

Office of Nuclear Security and Incident Response

Division of Preparedness and Response

Policy and Oversight Branch

robert.kahler@nrc.gov

(301) 287-3756