

Regulatory Improvements for Power Reactors Transitioning to Decommissioning

Public Meeting
May 8-10, 2017

Overview of Rulemaking

Alysia Bone, Project Manager
Division of Policy and Rulemaking
Nuclear Reactor Regulation

Public Meeting
May 8, 2017

Meeting Purpose

- Discuss draft regulatory basis and associated preliminary draft regulatory analysis for the “Regulatory Improvements for Power Reactors Transitioning to Decommissioning” rulemaking
- Enhance stakeholder understanding of these documents to inform development of formal comment submissions
 - 90-day comment period ends on June 13, 2017

Meeting Purpose (cont'd)

- NRC will not be providing formal comment responses to any oral remarks made at this meeting
 - Staff will consider, to the extent possible, feedback heard during today's meeting in developing the final regulatory basis

Ground rules

- Approximately 30-45 minutes for each session will be allotted for stakeholder questions/discussion.
- Breaks and lunch times are approximate.
- If a session finishes early, the NRC staff will not begin a new session early to accommodate those who may be planning to participate in specific sessions.

Agenda May 8

Monday, May 8 (Commission Hearing Room):

9:30 – 10:00 AM – Opening remarks and introductory presentation

10:00 – 11:00 AM – Current Approaches to Decommissioning (Appendix H)

11:00 – 11:15 AM – Break

11:15 AM – 12:30 PM – Current Approaches to Decommissioning (Appendix H) *continued*

12:30 – 1:30 PM – Lunch

1:30 – 1:40 PM – Recap of ground rules

1:40 – 2:40 PM – Backfit (Appendix I)

2:40 – 3:40 PM – Drug and Alcohol Testing (Appendix D)

3:40 – 3:55 PM – Break

3:55 – 4:55 PM – Fatigue Management (Appendix K)

4:55 – 5:15 PM – Recap/closing remarks for the day

5:15 – 5:30 PM – Recap/closing remarks

Agenda (May 9-10)

Tuesday, May 9 (Commission Hearing Room):

- 9:30 – 9:45 AM – Opening remarks/recap of ground rules
- 9:45 – 10:45 AM – Emergency Preparedness (Appendix A)
- 10:45 – 11:00 AM – Break
- 11:00 – 11:30 AM – Emergency Preparedness (Appendix A) *continued*
- 11:30 AM – 12:30 PM – Lunch
- 12:30 – 12:45 PM – Opening remarks/recap of ground rules
- 12:45 – 1:45 PM – Aging Management (Appendix J)
- 1:45 – 2:45 PM – Cyber Security (Appendix C) and Physical Security (Appendix B)
- 2:45 – 3:00 PM – Break
- 3:00 – 4:45 PM – Cyber Security (Appendix C) and Physical Security (Appendix B) *continued*
- 4:45 – 5:00 PM – Recap/closing remarks for the day

Please note the change in room on Wednesday morning.

Wednesday, May 10: (AM in ACRS Room; PM in Commission Hearing Room)

- 9:30 – 9:45 AM – Opening remarks/recap of ground rules
- 9:45 – 11:15 AM – Decommissioning Trust Funds (Appendix F)
- 11:15 – 11:30 AM – Break
- 11:30 AM – 12:30 PM – Onsite and Offsite Insurance and Indemnity Agreements (Appendix G)
- 12:30 – 1:30 PM – Lunch
- 1:30 – 1:45 PM – Opening remarks/recap of ground rules
- 1:45 – 3:15 PM – Certified Fuel Handler Training and Min. Staffing (App. E)
- 3:15 – 3:30 PM – Break
- 3:30 – 5:15 PM – Regulatory Analysis

Purpose of a Regulatory Basis

- A regulatory basis often includes details about the following:
 - Why a current regulation or policy needs to be changed;
 - Why alternatives to rulemaking will not work;
 - Different approaches to resolve the issue;
 - Supporting scientific, policy, legal, or technical information;
 - Stakeholder interactions in developing the technical portion of the regulatory basis and stakeholder views;
 - Any backfitting considerations; and
 - Any limitations on the scope and quality of the regulatory basis.

Purpose of a Regulatory Analysis

- This analysis follows a systematic and disciplined process in considering costs and benefits associated with all approaches to resolving the issue.

Rulemaking Goals

- Provide an efficient decommissioning process
- Reduce the need for requests for exemptions from existing regulations
- Address other decommissioning issues deemed relevant by the NRC staff
- Support the principles of good regulation, including openness, clarity and reliability

Background

- In SRM-SECY-14-0118, the Commission directed staff to address the following issues in the rulemaking:
 - Graded approach to emergency preparedness
 - Lessons learned from recently shutdown plants
 - NRC approval of post-shutdown decommissioning activities report
 - Maintaining three existing decommissioning options and associated timeframes
 - Role of State and local governments and non-governmental stakeholders in the decommissioning process
 - Other issues deemed relevant by staff

Background (cont'd)

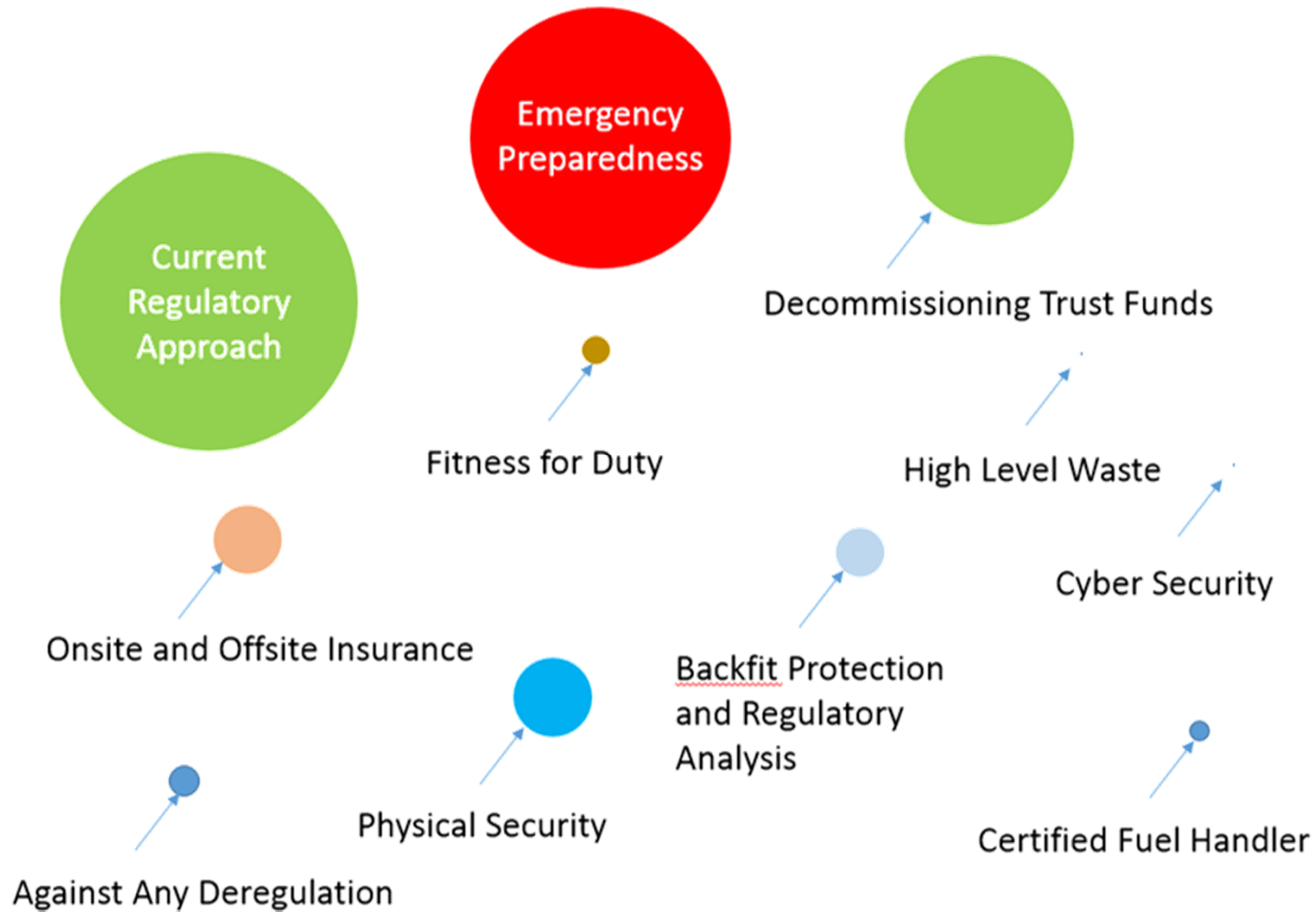
- In November 2015, the NRC published an advance notice of proposed rulemaking (ANPR) (80 FR 72358). Covered the following topics:

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)

- The NRC received 162 comment submissions in response to the ANPR, which the staff considered in preparing the draft regulatory basis.

ANPR - Areas of Interest

Diameter of circle shows relative number of comments submitted by topic



Draft Regulatory Basis

- Draft Regulatory Basis was made publicly available on March 10, 2017 to facilitate discussions at RIC
- Draft Regulatory Basis was issued for 90-day public comment period on March 15, 2017 (82 FR 13778) (ADAMS Accession No. ML17047A413)
- FRN included questions in six additional areas that are being considered for inclusion in rule:
 - Foreign ownership exemptions for decommissioning licensees
 - Site-specific cost estimates
 - Security regulations for Category 1 & 2 quantities of radioactive material
 - Primary liability insurance
 - Security plan changes
 - Community advisory boards

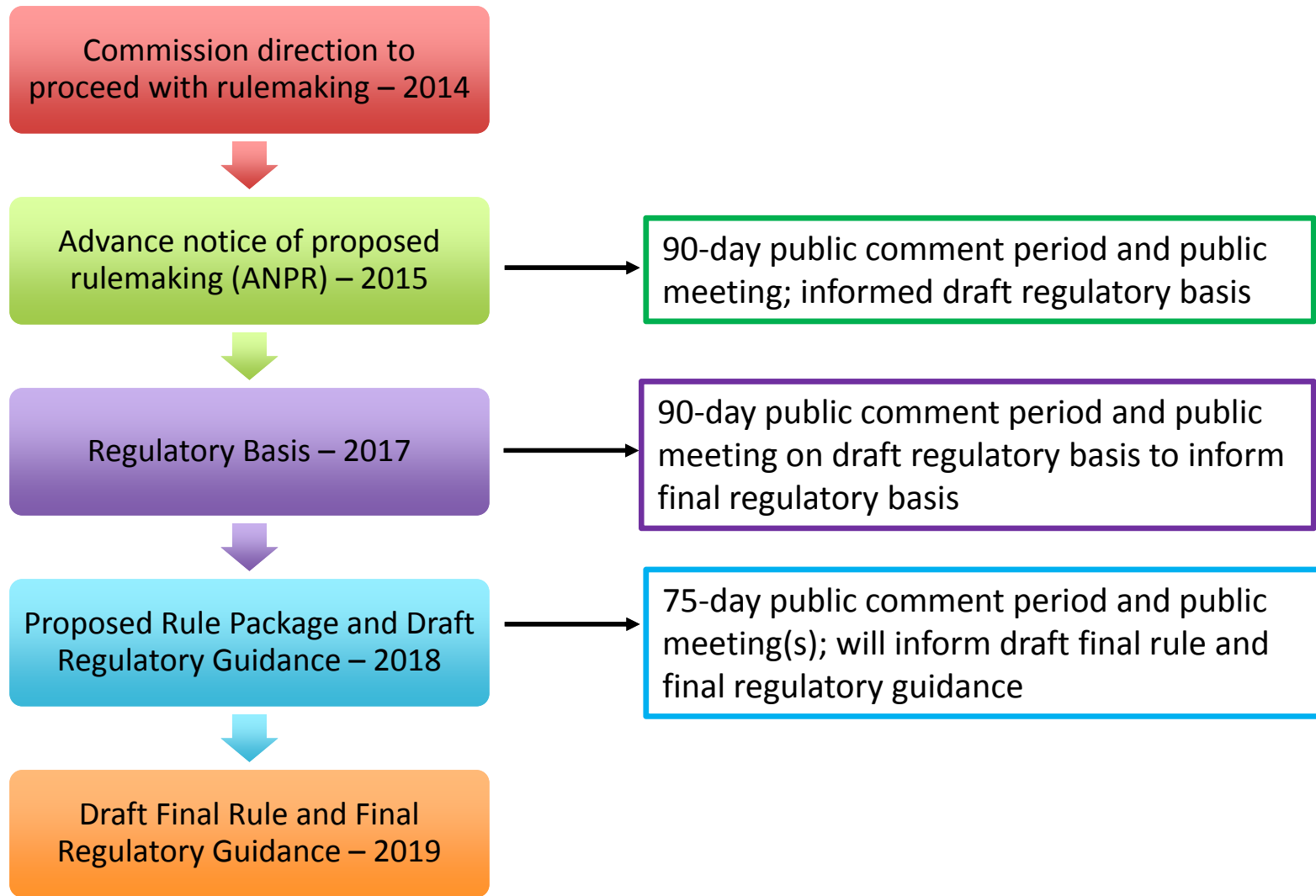
Draft Regulatory Basis Conclusions

- Areas with sufficient justification to proceed with rulemaking:
 - Emergency preparedness
 - Physical security
 - Decommissioning trust funds
 - Offsite and onsite financial protection requirements and indemnity agreements
 - Application of the backfit rule
- Guidance, rather than rulemaking, should be used to address:
 - Role of State and local governments in the decommissioning process
 - Level of NRC review and approval of a licensee's post-shutdown decommissioning activities report
 - 60-year limit for power reactor decommissioning
- NRC staff is still assessing its options for:
 - Cyber security
 - Drug and alcohol testing
 - Minimum staffing and training requirements for certified fuel handlers
 - Aging management
 - Fatigue management

Preliminary Draft Regulatory Analysis

- Preliminary draft regulatory analysis will be issued for public comment period on May 9, 2017 (ADAMS Accession No. ML16271A511)
 - Comment period for preliminary draft regulatory analysis ends concurrent with comment period on draft regulatory basis; June 13, 2017
- FRN includes six specific requests for comments on the preliminary draft regulatory analysis

Public Involvement in Rulemaking



Next Steps

- Final Regulatory Basis
 - Late 2017
- Proposed Rule/Draft Regulatory Guidance
 - Provide to Commission in Spring 2018
- Draft Final Rule/Final Regulatory Guidance
 - Provide to the Commission in Fall 2019

Submitting Comments

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID NRC-2015-0070.
- For questions about NRC dockets please contact:
 - Carol Gallagher; 301-415-3463;
Carol.Gallagher@nrc.gov.
- For technical questions please contact:
 - Alysia Bone; 301-415-1034; Alysia.Bone@nrc.gov
 - Jennifer Tobin; 301-415-2328; Jennifer.Tobin@nrc.gov

Regulatory Improvements for Power Reactors Transitioning to Decommissioning

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Appendix H

Current Regulatory Approach to Decommissioning

Marlayna Vaaler

NMSS – Reactor Decommissioning Branch

Public Meeting

May 8, 2017

Background

- The Commission directed the staff to reexamine the current framework for decommissioning, looking at both specific topics and areas for overall clarification or improvement
- Specific topics considered in Appendix H:
 - Level of Post-Shutdown Decommissioning Activities Report (PSDAR) Review and Approval by the NRC
 - Maintaining the Three Existing Options for Decommissioning
 - 60-Year Timeframe Associated with Decommissioning
 - Role of State and Local Governments and Non-Governmental Stakeholders in the Decommissioning Process

Background

- Additional, staff identified areas considered in Appendix H:
 - Clarifying the Spent Fuel Management Requirements of 10 CFR 72.218, 10 CFR 50.54(bb), 10 CFR 50.82, and 10 CFR 52.110
 - Ensure that there is consistency between the spent fuel management requirements in Part 50, Part 52, and Part 72
 - Clarifying the Environmental Requirements in 10 CFR Part 50 and 10 CFR Part 51
 - Clean up existing regulations to ensure that the decommissioning framework is clear for power reactors

PSDAR Review and Approval

Current Regulations and Implementation

- 10 CFR 50.82(a)(4) requires a PSDAR that contains:
 - A description of the planned decommissioning activities
 - A schedule for their accomplishment
 - The reasons for concluding that the environmental impacts associated with site-specific decommissioning activities will be bounded by appropriate previously-issued environmental impact statements
 - A site-specific decommissioning cost estimate (DCE), including the projected cost of managing irradiated fuel

PSDAR Review and Approval

Options Considered for Rulemaking

- No Action
- Guidance Development and Enhancement
- Rulemaking to Codify Specific Issues
 - State and local government involvement in the decommissioning process
 - Additional site-specific environmental reviews
 - Require periodic updates to the PSDAR
- Rulemaking to Require PSDAR Approval

PSDAR Review and Approval

Staff Recommended Option

- **Option 2: Guidance Development and Enhancement**
- Changes to Regulatory Guide (RG) 1.185, “Standard Format and Content for Post-Shutdown Decommissioning Activities Report,” which could include discussion of:
 - Planned site modifications, schedules, and timelines
 - Long term spent fuel management plans
 - Site characterization and potential remediation activities
 - Plans for community involvement in decommissioning
 - Summary of the licensee’s evaluation of the environmental impacts of site-specific decommissioning activities

PSDAR Review and Approval

Basis for Staff Recommended Option

- May lead to an additional level of detail in the PSDAR – on topics already required to be covered by the PSDAR – for issues that have been a concern for many stakeholders, without the need to further formalize PSDAR content
- Provides flexibility during the decommissioning the process
- Overall enhancement in documents submitted to the NRC
- Enhanced opportunity for public and other stakeholder involvement in the decommissioning process

Options for Decommissioning

Current Regulations and Implementation

- Current options for decommissioning power reactors:
 - **DECON** or active decommissioning
 - **SAFSTOR** or deferred decommissioning
 - **ENTOMB** or encasement of contamination
- Options are only captured in guidance documents, such as the descriptions in the Decommissioning Generic Environmental Impact Statement (GEIS)
- Choice of method is left to the licensee as long as it can be completed in accordance with the NRC's regulations

Options for Decommissioning

Options Considered for Rulemaking

- No Action
- Guidance Development and Enhancement
 - Provide additional details in the PSDAR, DCE, and/or Irradiated Fuel Management Plan (IFMP) regarding the overall decommissioning strategy and its impacts
 - Recommend removal of the ENTOMB option from guidance documents (where practical) since it is not a feasible option for power reactors
- Rulemaking to Codify Decommissioning Approaches

Options for Decommissioning

Staff Recommended Option

- **Option 2: Guidance Development and Enhancement**
- Changes to RG 1.184, “Decommissioning of Nuclear Power Reactors,” which could include discussion of:
 - Decision making behind the selection of SAFSTOR or DECON
 - Cost over time of the decommissioning method selected
 - Potential future uses of the site and overall plan for final disposition of the facility structures and other components
 - ENTOMB would be removed as an option from the existing guidance, because it is not feasible for U.S. nuclear power reactors and not consistent with the required timeframe

Options for Decommissioning

Basis for Staff Recommended Option

- May lead to an additional level of detail in the PSDAR, DCE, and/or IFMP – on topics already required to be covered by these documents – for issues that have been a concern for many stakeholders, without the need to formalize content
- Provides flexibility during the decommissioning the process
- Overall enhancement in documents submitted to the NRC
- Enhanced opportunity for public and other stakeholder involvement in the decommissioning process

Timeframe for Decommissioning

Current Regulations and Implementation

- 10 CFR 50.82(a)(3) requires that decommissioning be completed within 60 years of permanent shutdown
- The 60-year decommissioning timeline is the result of a risk-informed performance-based decision
- The 60-year limit was based on the following factors:
 - Time needed for the decay of several radiological isotopes
 - The as low as reasonably achievable (ALARA) principle
 - Ability to effectively maintain institutional controls
 - Overall costs of decommissioning as a function of time

Timeframe for Decommissioning Options Considered for Rulemaking

- No Action
- Guidance Development and Enhancement
 - Provide additional details in the PSDAR, DCE, and/or IFMP regarding overall decommissioning strategy and impacts
- Rulemaking to Change the Timeframe for Decommissioning
 - Decrease the time allowed to complete decommissioning at facilities that are not co-located with operating reactor units
 - Establish requirements for expediting decommissioning to the extent practical at each facility

Timeframe for Decommissioning Staff Recommended Option

- **Option 2: Guidance Development and Enhancement**
- Changes to RG 1.184 and RG 1.185, which could include additional details and discussion of:
 - Considerations for entering SAFSTOR, and an overview of the timeframe for DECON to commence
 - Considerations for delaying any active (i.e., partial) dismantlement of the facility during the SAFSTOR period
 - If available, the possibility of early release of parts of the site or facility from the NRC license

Timeframe for Decommissioning

Basis for Staff Recommended Option

- May lead to an additional level of detail in the PSDAR, DCE, and/or IFMP – on topics already required to be covered by these documents – for issues that have been a concern for many stakeholders, without the need to formalize content
- Provides flexibility during the decommissioning the process
- Overall enhancement in documents submitted to the NRC
- Enhanced opportunity for public and other stakeholder involvement in the decommissioning process

Role of Stakeholders in Decommissioning

Current Regulations and Implementation

- NRC regulations currently offer the public an opportunity to review licensee submittals and provide input during many stages of the decommissioning process
- The NRC strongly recommends formation of a community committee or other decommissioning advisory organization
- The NRC does not have the authority to direct governmental or non-governmental entities (other than NRC licensees) to participate in the decommissioning of a facility

Role of Stakeholders in Decommissioning Options Considered for Rulemaking

- No Action
- Guidance Development and Enhancement
- Rulemaking to Mandate Creation of Community Advisory Boards at Decommissioning Power Reactors
 - Establish provisions for (1) minimum membership levels, (2) the extent that board input will be taken into consideration, (3) the level of independence the board will have to implement decisions, and (4) the ability of the board to request meetings with the NRC and other stakeholders

Role of Stakeholders in Decommissioning Staff Recommended Option

- **Option 2: Guidance Development and Enhancement**
- Changes to RG 1.184 and RG 1.185, which could include additional details and discussion of:
 - Best practices for creating a community advisory board
 - Suggested best practices for membership
 - Anticipated level of board activity and involvement in the decommissioning decision making process
 - A discussion of what topics would be brought before the community advisory board, and what interaction, if any, the board would have with the NRC or other agencies

Role of Stakeholders in Decommissioning

Basis for Staff Recommended Option

- Provide guidance on best practices related to the formation of community advisory boards, without the need to formalize their formation in NRC regulations or violate the current requirements of the Atomic Energy Act
- Provides flexibility during the decommissioning the process
- Overall enhancement in documents submitted to the NRC
- Enhanced opportunity for public and other stakeholder involvement in the decommissioning process

Clarifications to Spent Fuel Requirements

Current Regulations and Implementation

- 10 CFR 72.218(a) notes that the spent fuel management program described in 10 CFR 50.54(bb) must include a plan for removal of the spent fuel stored under the general license from the reactor site
 - The plan must show how the fuel will be managed before starting to decommission systems, structures, and components (SSCs) needed for moving, unloading, and shipping spent fuel
 - Currently, 10 CFR 50.54(bb) pertains mostly to the financial requirements of storing and managing spent nuclear fuel, and there is no corresponding requirement to establish how the fuel should be managed until the fuel is removed from the site

Clarifications to Spent Fuel Requirements

Current Regulations and Implementation

- 10 CFR 72.218(b) notes that an application for termination of a reactor operating license submitted under 10 CFR 50.82 or 10 CFR 52.110 must contain a description of how the spent fuel will be removed from the site
 - Originally intended to apply to the detailed Decommissioning Plan that was (prior to the 1996 decommissioning rule) required to be submitted to the NRC for review and approval
 - Plan would have to include an explanation of when and how the spent fuel would be moved, unloaded, and shipped prior to starting to decommission and dismantle the equipment needed to conduct these activities

Clarifications to Spent Fuel Requirements

Options Considered for Rulemaking

- No Action
- Guidance Development and Enhancement
 - Provide guidance to address the need for licensees to consider how to manage and remove spent fuel from the site before they decommission the SSCs that support moving, unloading, and shipping of spent fuel
- Rulemaking to Clarify Spent Fuel Management Requirements
 - Clarify the requirements for a licensee to consider or plan how it is going to manage spent fuel during decommissioning

Clarifications to Spent Fuel Requirements

Staff Recommended Option

- **Option 3: Rulemaking to Clarify the Spent Fuel Management Requirements**
- Propose changes to 10 CFR 50.82, 10 CFR 50.54(bb), 10 CFR 52.110, and 10 CFR 72.218 as they relate to requirements for a licensee to consider or plan how it is going to manage and remove spent fuel from the site before it decommissions the SSCs that support moving, unloading, and shipping of spent fuel

Clarifications to Spent Fuel Requirements

Staff Recommended Option

- Language added to 10 CFR 50.82(a)(4) and 52.110(d) requiring that the PSDAR contain a description of how the spent fuel stored under a general ISFSI license will be removed from the reactor site
- Language added to 10 CFR 50.54(bb) to establish that the program for managing spent fuel during decommissioning must take into consideration how the spent fuel will be managed before starting to decommission SSCs needed for moving, unloading, and shipping fuel
- Language in 10 CFR 72.218(b) would be clarified to refer to the PSDAR, rather than the license termination plan (LTP), and 10 CFR 72.218 would be made applicable to specific ISFSI licensees

Clarifications to Spent Fuel Requirements

Basis for Staff Recommended Option

- Provide clarity between the spent fuel requirements in 10 CFR 50.82, 10 CFR 50.54(bb), 10 CFR 52.110, and 10 CFR 72.218, and enhance the associated decommissioning documentation submitted to the NRC
- Promulgate rule language that is already present in other regulations for spent fuel management plans that are already considered by decommissioning licensees
- Enhanced opportunity for public and other stakeholder involvement in the decommissioning process

Clarifications to Environmental Requirements

Current Regulations and Recommended Change

- Some regulations in 10 CFR Part 51 imply that a license amendment is required before decommissioning activities may commence at power reactors
- NRC will amend 10 CFR 51.53 and 10 CFR 51.95 to clarify that the statements regarding the need for a license amendment to authorize decommissioning activities apply to non-power reactors only, which still require prior NRC approval of their Decommissioning Plan before commencing decommissioning

Current Regulatory Approach to Decommissioning Conclusions

- Current experiences with decommissioning facilities indicate that the overall process is being implemented in a manner that is consistent with the intent of both the 1988 and 1996 decommissioning rules; specifically:
 - Decommissioning activities will be accomplished in a safe and timely manner
 - Adequate funds will be available for this purpose
 - The decommissioning requirements will reduce regulatory burden, provide greater flexibility to licensees, and allow for greater public participation in the decommissioning process

Current Regulatory Approach to Decommissioning Conclusions

- The current decommissioning regulations are sufficient to protect public health and safety and the environment
- Implementation of the proposed staff recommendations will result in revisions to guidance documents that could provide more clarity and detail in several areas that are of concern to impacted stakeholders
- Clarifying the spent fuel management and environmental requirements will enhance regulatory clarity

THANK YOU! Questions?
Appendix H
Current Regulatory Approach to
Decommissioning

Marlayna Vaaler

NMSS – Reactor Decommissioning Branch

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Recap of Ground Rules

- Approximately 30-45 minutes for each session will be allotted for stakeholder questions/discussion.
- Breaks and lunch times are approximate.
- If a session finishes early, the NRC staff will not begin a new session early to accommodate those who may be planning to participate in specific sessions.

Appendix I: Application of the Backfit Rule to Decommissioning Licensees

Howard Benowitz

Public Meeting
May 8, 2017

Background

- 10 CFR 50.109, 10 CFR Part 52
- Historically, very few backfitting issues
- SECY-98-253, “Applicability of Plant-Specific Backfit Requirements to Plants Undergoing Decommissioning”
- The NRC applies the Backfit Rule to licensees in decommissioning “to the extent practical”

Issues

- Language of the Backfit Rule could be interpreted to apply to licensees in decommissioning, although the Rule's history paints a different picture
- Parts of the Backfit Rule do not apply to licensees in decommissioning
 - Costs of construction delay or facility downtime due to backfitting
 - Safety impact of changes in plant or operational complexity resulting from backfitting

Issues

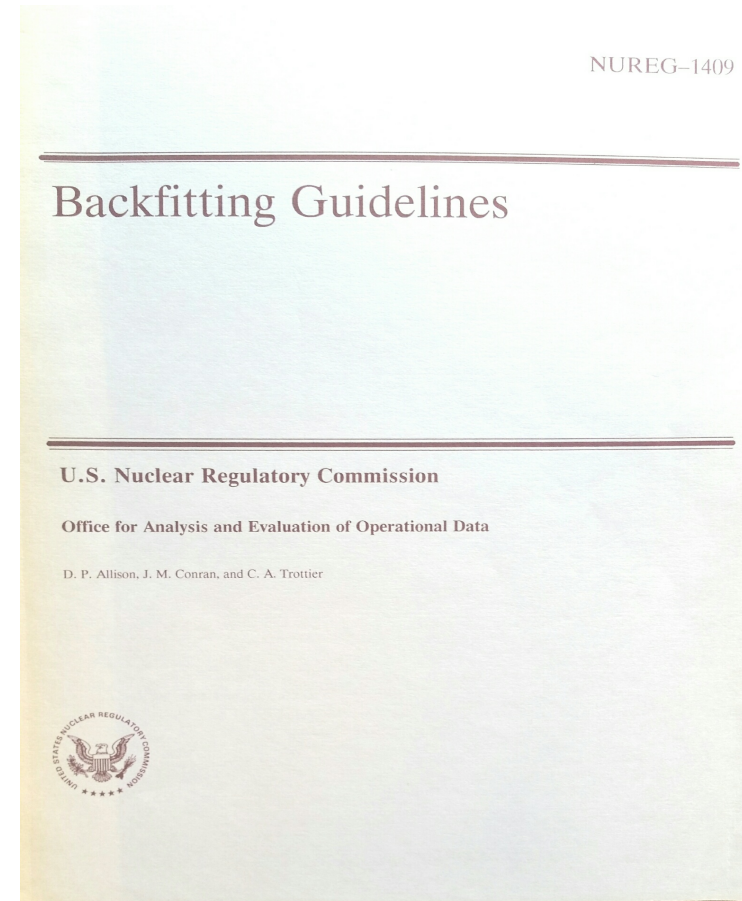
- Backfit Rule needs clarification as to whether it applies to licensees in decommissioning
- If the Backfit Rule applies to licensees in decommissioning, to what extent does it apply?

Option 1

- Take no action
- Apply Backfit Rule to the extent practical and on a case-by-case basis
 - Predictability?
 - Stability?

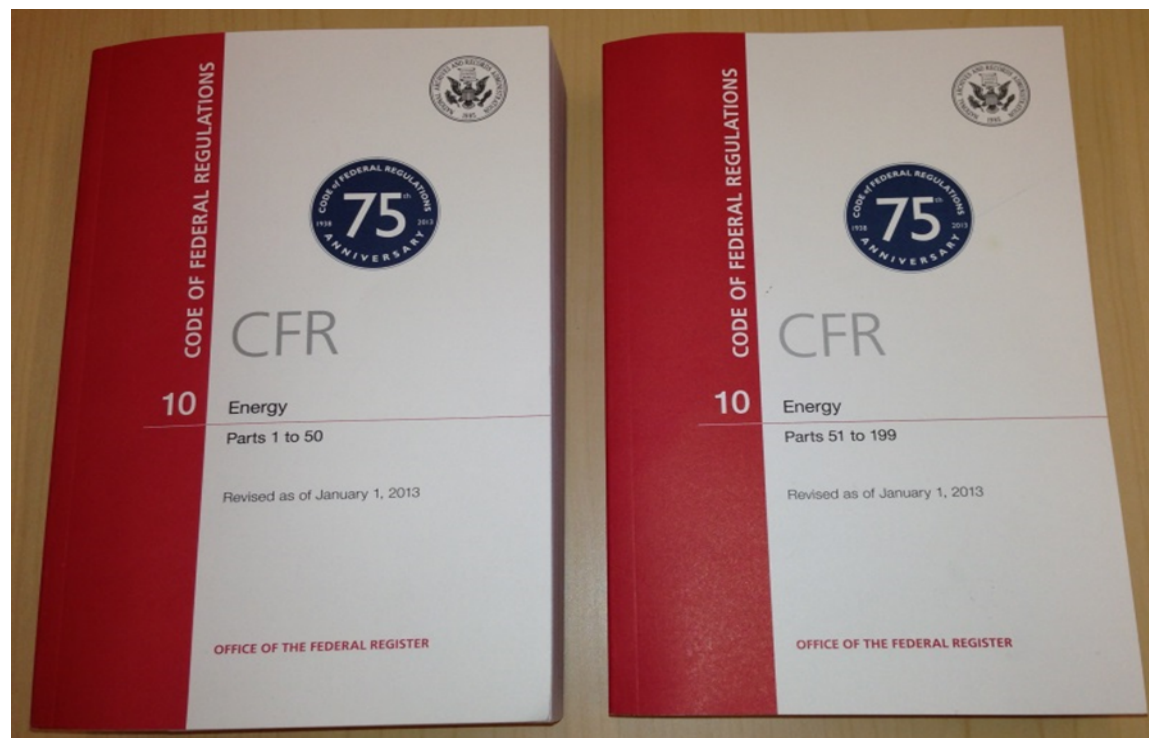
Option 2

- Guidance development
- NUREG-1409
- Same issues as Option 1



Option 3

- Rulemaking



Staff Recommendation

Rulemaking



Basis for Staff Recommendation

- Regulatory language supports application of the Backfit Rule to licensees in decommissioning
- Commission direction to conduct rulemaking

Potential for Backfitting

- None.

Cost/Benefit Considerations

- Rulemaking benefits
 - Clarity, stability, predictability

- Rulemaking costs
 - Amending regulations
 - Updating guidance

Appendix D

Fitness For Duty

Will Smith, Security Specialist
Materials and Waste Security Branch
Division of Physical and Cyber Security Policy
Nuclear Security and Incident Response

Public Meeting
May 8, 2017

Discussion Topics

- What's The Issue
- Background
- Option 1, No Action - Status Quo
- Reg Guide (RG) 5.77, Insider Mitigation Program (IMP)
 - 10 CFR 73.55(b)(9) IMP Requirements
 - Pros and Cons
- Option 2, Rulemaking
 - Purpose
 - Pros and Cons
- Staff Recommendation
- Backfit and Cost/Benefit Considerations
- Questions

What's The Issue

- Issues
 - FFD elements for an IMP are not defined
 - Disconnect in 10 CFR 26.3(a), Scope, between Part 50 and 52
 - Safety and security equities during decommissioning
 - Some equities decrease as fuel gets older
 - Security personnel Fitness for Duty (FFD)
 - Security must continue to defend against the Design Basis Threat (DBT) for radiological sabotage under 10 CFR 73.1

Background

- Section 26.3(a) Scope
 - Part 50 and 52 licensees
 - Part 26 does not apply to Part 50 licensees during decommissioning
- FFD at decommissioning power reactor sites prior to 2012
 - Decommissioning sites have always maintained their FFD Programs
 - Post 9/11, EA-03-099 Order
- FFD at decommissioning power reactor sites since 2012
 - Section 73.55(b)(9) Requirements (Elements of an FFD program to support IMP)

Option 1 No Action/Reg Guide 5.77, IMP

Status Quo

- Part 26 regulations do not apply to Part 50 licensees, but do apply to Part 52 licensees, during decommissioning
- Licensees continue current FFD practices
 - Never been a case of a licensee discontinuing FFD program
 - Elements of FFD program in place to meet IMP requirements

Option 1 No Action/Reg Guide 5.77, IMP

Reg Guide 5.77, IMP

- Section 73.55(b)(9) IMP
 - Requires insider mitigation program
 - Elements of Part 26 are not defined in Section 73.55(b)(9)
 - Current RG 5.77 only describes the conditions for testing (i.e., pre-access)
 - Reg Guide 5.77 Revision 1, will describe Part 26 elements for IMP
 - Part 26 elements will be based on trustworthiness and reliability (T&R)
- RG 5.77, Revision 1 in final stages of review and will describe FFD elements acceptable to staff

Option 1 No Action/Reg Guide 5.77, IMP

Pros and Cons

- Pros:
 - Status quo – no changes and no additional burden
 - RG 5.77, Rev 1 (If adopted by licensees)
 - FFD elements that meet IMP requirements
 - Consistent implementation
 - Consistent inspection
- Cons:
 - Not committing to RG 5.77 could result in varying interpretation of FFD elements for § 73.55(b)(9)
 - RG 5.77 focuses on T&R and not overall FFD of personnel

Option 2, Rulemaking

Purpose for Rulemaking

- Address regulation inconsistencies
 - Part 26 does not apply to Part 50 licensees during decommissioning but does apply to Part 52 licensees
- Opportunity to describe appropriate FFD program for decommissioning facilities
 - What staff have safety/security related roles?
 - Duration into decommissioning for determining applicability
 - Which core FFD program provisions are needed?

Option 2, Rulemaking

Pros and Cons

Pros:

- Consistency of applicability between Parts 50 and 52
- Consistent implementation and inspection
- Reasonable assurance that:
 - Personnel are trustworthy and reliable
 - Key personnel are subject to FFD program
 - Performing duties safely
 - Defending site against Section 73.1, DBT

Option 2, Rulemaking

Pros and Cons

Pros:

- Opportunity to define the appropriate FFD program (applicability, duration, scope and provisions) during decommissioning
- Less burden and cost for the licensees
 - Duration and applicability could reduce the number of individuals tested
 - Alternative provisions for meeting rule
- Cons:
 - “One time” cost to develop and implement rulemaking

Staff Recommendation

- Decision on which option the staff recommends will be informed by public comments received on this draft regulatory basis document
- Staff's recommendation will be documented in final regulatory basis

Backfit and Cost/Benefit Considerations

Backfit

- Staff would not consider this rule to be a backfit
 - FFD programs are already being implemented

Cost/Benefit Considerations

- “One time” cost to NRC and licensees for development and implementation of revised rule
- “Long term” cost will be reduced based on benefits
- Benefits
 - Reduction in applicability of certain requirements
 - Alternatives to certain requirements

QUESTIONS

Appendix K

Michael Montecalvo

Public Meeting
May 8, 2017

Background

- February, 1982 – Policy on Factors Causing Fatigue of Operating Personnel at Nuclear Reactors
- June, 1982 – Generic Letter 82-12, Nuclear Power Plant Staffing Work Hours
- June, 1989 – 10 CFR Part 26 final rule, “Fitness-for-Duty Programs”
- February, 1999 – Concerns raised by Congress

Background

- March, 1999 – Concerns raised by UCS
- September, 1999 – Petition for Rulemaking 26-2 received
- January, 2002 – Approval to incorporate fatigue management into Part 26
- April, 2003 – Order EA-03-038 – Addressed security personnel cumulative fatigue
- March, 2008 – 10 CFR Part 26 Subpart I, “Managing Fatigue”

Current Regulations and Implementation

- Part 26 scope – licensees authorized to operate *or* that hold a combined license (COL)
- Part 50 licensees not authorized to operate – not subject to Part 26 during decommissioning
- Part 52 licensees – still subject to Part 26 during decommissioning

*Most licensees maintain some form of work hour control program for security personnel during decommissioning

Options 1 & 2

- Option 1 – No Action – Retain FFD provisions of current regulations for decommissioning licensees
 - 10 CFR Part 26, Subpart I
 - Part 50 licensees – does not apply
 - Part 52 licensees – applies
- Option 2 – NRC staff would consider voluntary implementation of industry initiatives

Option 3: Rulemaking

- Codify FFD requirements for decommissioning power reactors
 - Amend Part 26 to be applicable to Security Personnel and Certified Fuel Handlers
 - Part 50 decommissioning power reactors
 - Until fuel in the SFP has sufficiently decayed corresponding to transition from Level 1 to Level 2
- *Would allow analysis of reduction in requirements for Part 52 licensees

Staff Recommendation

- The NRC staff's recommendation in the final regulatory basis will be informed by public comments received on the draft regulatory basis document, and will include a full assessment of the rulemaking options.

Potential for Backfitting

- Rulemaking for Part 50 licensees in this area would constitute backfitting
- Rulemaking would have to result in a cost-justified, substantial increase in the protection of the public health and safety or common defense and security

Cost/Benefit Considerations

- Option 1 (status quo)
 - No incremental costs/benefits
- Option 2 (voluntary industry initiatives)
 - Costs
 - Development and implementation of voluntary industry initiatives and associated inspection activities
 - Benefits
 - Could provide uniformity and standardization in application of fatigue management programs at decommissioning power reactors

Cost/Benefit Considerations

- Option 3 (rulemaking)
 - Costs
 - One-time cost to develop and implement the rule, and revise guidance. Implementation costs for licensees to comply with the rule.
 - Benefits
 - Enhanced clarity of regulatory framework, provide regulatory stability and predictability to the decommissioning process.
 - Enable NRC staff to examine the basis for differences in requirements for Part 50 and Part 52 license holders.

Submitting Comments

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID NRC-2015-0070.
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