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Rulemaking for
PHYSICAL SECURITY FOR ADVANCED REACTORS

Regulatory Basis for Public Comment
(NRC Docket ID: NRC-2017-0227)

August 8, 2019

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Agenda

- Opening Remarks
- NRC Management Remarks
- NRC Staff Presentation
- Open Discussion
- Closing Remarks

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Announcements

- Category 3 Public Meeting
- Teleconference Number
  - 1-888-989-4574 Passcode: 4011227
- Webinar
  - https://attendee.gotowebinar.com/register/7682248561050027521
- If you are participating via phone, please send an email to Ilka.Berrios@nrc.gov confirming your attendance.

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Meeting Purpose

- Discuss the regulatory basis and regulatory analysis for the "Physical Security for Advanced Reactors" rulemaking.
- Solicit public feedback on the rulemaking scope, and related costs and benefits associated with this rulemaking.
- NRC will not provide formal responses to any oral remarks made at this meeting.
- NRC does not expect to revise/reissue the regulatory basis.

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Regulatory Basis

- Public meeting to inform regulatory basis development was held on December 13, 2018.
- Regulatory basis issued for public comment on July 16, 2019
  - *Federal Register* notice (84 FR 3386)
  - Comment period closes on August 15, 2019
  - See *Federal Register* notice for ways to submit comments
- NRC will consider, to the extent possible, comments submitted on the regulatory basis in the proposed rule.
- Regulations.gov—Docket No. NRC-2017-0227

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Rulemaking Process and Schedule

- Regulatory Basis
  - Includes preliminary Regulatory Analysis
  - Public comment period: July 16 – August 15, 2019
- Proposed Rule and Draft Guidance
  - Public meeting – November or December 2019
  - Provide to the Commission in January 2021
  - Issue for public comments in 2021
- Final Rule and Final Guidance
  - Provide to the Commission in May 2022

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Background

- SECY-18-0076, "Options and Recommendation for Physical Security for Advanced Reactors," dated August 1, 2018 identified 4 options:
    1) No change / Status quo
    2) Address possible requests for alternatives via guidance
    3) Limited scope rulemaking to address what would otherwise be likely requests for alternatives (staff's recommendation)
    4) Broader based rulemaking to more fully reflect attributes of advanced reactors

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Staff's Recommendation

- Alternative 3 is a limited-scope rulemaking that would retain the current overall framework for security requirements but provide alternatives for SMRs and non-LWRs to specific regulations and guidance related to physical security.
  - Example – NEI proposal for reductions in the number of armed responders (10 CFR 73.55(k)(5))

- NRC staff would develop guidance documents to support the implementation of the requirements defined through the rulemaking.

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Staff Requirements Memorandum

SRM-SECY-18-0076, dated November 19, 2018

- The Commission approved the staff's recommended Option 3, to initiate a limited-scope revision of regulations and guidance related to physical security for advanced reactors and approved the enclosed rulemaking plan, subject to the following edits to the rulemaking plan:
  - Complete regulatory basis within 12 months following Commission's SRM.
  - Add another potential area to rule scope description, namely, the prescriptive requirements in 10 CFR 73.55 for onsite secondary alarm stations.

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Regulatory Basis

1. Introduction
2. Existing Regulatory Framework
3. Regulatory Issues
4. **Discussion of Alternatives**
5. **Estimates of Costs and Savings**
6. Other Impacts and Regulatory Considerations
7. NRC Strategic Plan
8. **Stakeholder Interactions**
9. **Rulemaking Development Timeline**
10. References

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Recommended Alternative

- Alternative 3 – Limited Scope Rulemaking
  - Armed Responders (10 CFR 73.55(k)(5)(ii))
  - Onsite Secondary Alarm Station (10 CFR 73.55(i)(4)(iii))

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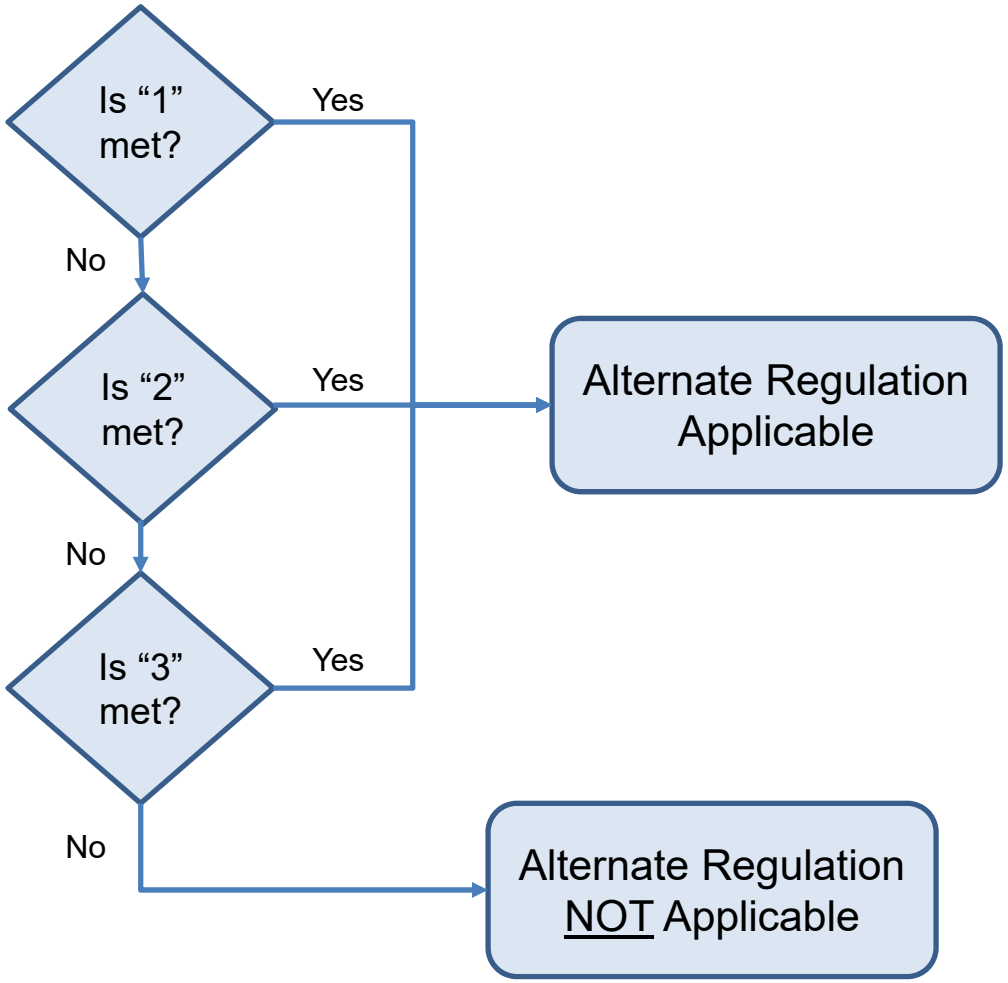
Performance Criteria for Alternative 3

Reactor design

Facility design

Mitigation strategies



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Performance Criteria (1 of 3)

1. The radiological consequences from a hypothetical, unmitigated event involving the loss of engineered systems for decay heat removal and possible breaches in physical structures surrounding the reactor, spent fuel, and other inventories of radioactive materials result in offsite doses below the reference values defined in 10 CFR 50.34 and 52.79 (e.g., no definable target sets of equipment or operator actions that if prevented from performing their intended safety function or prevented from being accomplished, would likely result in offsite doses exceeding the cited reference values);

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Performance Criteria (2 of 3)

2. The plant features necessary to mitigate an event and maintain offsite doses below the reference values in 10 CFR 50.34 and 52.79 cannot reasonably be compromised by the DBT for radiological sabotage (e.g., no achievable target set resulting in offsite doses exceeding the cited reference values given the design features and security features incorporated into a specific advanced reactor facility);

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Performance Criteria (3 of 3)

3. Plant features include inherent reactor characteristics combined with engineered safety and security features that allow for facility recovery and mitigation strategy implementation if a target set is compromised, destroyed, or rendered nonfunctional, such that offsite radiological consequences are maintained below the reference values defined in 10 CFR 50.34 and 52.79 (e.g., a reactor design with a large heat capacity and slow progression from loss of safety equipment to degradation of fission product barriers and release of radionuclides from the facility). Facility recovery and mitigation strategies may, where feasible, include support from offsite resources.

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Future Regulatory Guidance

- NRC staff would develop new regulatory guidance to implement the voluntary, performance-based alternative requirements in the rule.
- The regulatory guidance most likely would involve NRC endorsement of an industry guidance document, with exceptions and clarifications as needed.
- The staff would make the draft regulatory guidance available for public comment when it issues the proposed rule.
- Existing guidance documents will continue to remain applicable to large LWRs.

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Costs and Benefits

The rulemaking alternative would result in:

- Incremental averted costs to the industry and the NRC from eliminating the current regulatory need for certain applicants to request exemptions from current physical security regulations.
- Incremental costs to the NRC for rulemaking and the development of associated guidance documents.
- Projected net cost of ($739,000) (7% NPV)
  - $311,000 from averted exemption requests
  - ($1.05 million) for rulemaking

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Related Activities

Coordination with related activities:

- SECY-19-0055, “Crediting Options for Operator Actions and Law Enforcement Response”
- Pending SECY – Micro-Reactor Policy Issues

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Path Forward

- Comment period ends on August 15th
- Development of proposed rulemaking & related guidance documents (due to the Commission in January 2021)
  - Public Meeting (November or December 2019)
    - Proposed Rule Language (Scope and Performance Criteria)
    - Guidance Development

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Open Session

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Closing Remarks

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How did we do?

- Link to NRC Public Meeting Feedback form:

- Email feedback for to ilka.berrios@nrc.gov