



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 2, 2020

MEMORANDUM TO: Chairman Svinicki
Commissioner Baran
Commissioner Caputo
Commissioner Wright
Commissioner Hanson

FROM: Margaret M. Doane
Executive Director for Operations

SUBJECT: RESPONSE TO STAFF REQUIREMENTS – SECY-20-0032 -
RULEMAKING PLAN ON “RISK-INFORMED, TECHNOLOGY-
INCLUSIVE REGULATORY FRAMEWORK FOR ADVANCED
REACTORS (RIN-3150-AK31; NRC-2019-0062)”

The purpose of this memorandum is to respond to Staff Requirements Memorandum (SRM)-SECY-20-0032, “Staff Requirements—SECY-20-0032—Rulemaking Plan on ‘Risk--Informed, Technology-Inclusive Regulatory Framework for Advanced Reactors (RIN-3150-AK31; NRC-2019-0062),’” dated October 2, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20276A293). The SRM directed the staff to provide the Commission:

- a schedule with milestones and resource requirements to achieve publication of the final rule by October 2024;
- key uncertainties impacting publication of the final rule by that date; and
- options for Commission consideration on licensing and regulating fusion energy systems.

In this memorandum the staff has outlined a schedule for preparing a rulemaking package that provides a risk-informed technology-inclusive regulatory framework for advanced reactors (Part 53) that conforms to the Commission’s direction to achieve publication of the final rule by October 2024. To achieve this schedule, the staff has determined that the proposed rule should be issued by October 2022. The development of the proposed rule will necessitate substantial stakeholder engagement. As such, the staff is scheduling a series of public meetings to engage stakeholders and the Advisory Committee on Reactor Safeguards (ACRS) throughout calendar

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year 2021. The schedule for the major rulemaking milestones is provided in Table 1. The staff anticipates that developing some guidance documents and other activities related to implementing the framework defined by the Part 53 rulemaking will extend beyond the milestones provided in Table 1.

| Major Rulemaking Activities/Milestones | Schedule |
|---|--|
| Public Outreach, ACRS Interactions and Generation of Proposed Rule Package | October 2020 to April 2022 (19 months) |
| Submit Draft Proposed Rule Package to Commission | May 2022 |
| Publish Proposed Rule and Draft Key Guidance | October 2022 |
| Public Comment Period – 60 days | November and December 2022 |
| Public Outreach and Generation of Final Rule Package | January 2023 to February 2024 (14 months) |
| Submit Draft Final Rule Package to Commission | March 2024 |
| Office of Management and Budget and Office of the Federal Register Processing | July 2024 to September 2024 |
| Publish Final Rule and Key Guidance | October 2024 |

The staff has already begun stakeholder engagement via public meetings and discussions with the ACRS. The staff is also reviewing a letter from the Nuclear Energy Institute (NEI), “NEI Input on the NRC Rulemaking Plan on, Risk-Informed, Technology-Inclusive Regulatory Framework for Advanced Reactors (RIN-3150-AK31; NRC-2019-0062),” dated October 21, 2020 (ADAMS Accession No. ML20296A398), which provides a proposed approach to achieving the Commission-approved schedule. The staff will discuss the NEI proposal with stakeholders during upcoming public meetings.

In SECY-20-0032 the staff enclosed resource estimates (ADAMS Accession No. ML19340A059 (nonpublic)) by fiscal year (FY) based on the proposed schedule to complete the Part 53 rulemaking in 2027. Completion of the Part 53 rulemaking activity by October 2024 requires changes to the resource estimates by FY. The enclosure (ADAMS Accession No. ML20288A260 (nonpublic)) of this response provides adjusted resource estimates and possible approaches to reallocate resources in FY 2021 and FY 2022 to accommodate the Commission-approved rulemaking schedule.

¹ In addition to the activities in Table 1, Section 103(e) of the Nuclear Energy Innovation and Modernization Act requires a report to Congress by July 2021 on (1) completing the rulemaking and (2) ensuring the NRC has adequate capabilities to support the evaluation of advanced nuclear reactor applications.

The staff has identified the following key risks and uncertainties related to publishing the final Part 53 rule by October 2024:

- Reaching alignment on the scope of the rulemaking with external stakeholders. Some industry stakeholders have expressed a desire for a “clean sheet” approach in the Part 53 rulemaking and are seeking broad, significant changes from the current regulatory framework for licensing new reactors. The staff’s primary goal is to develop a transformational rule that provides reasonable assurance of public health and safety for advanced reactors for Commission consideration. To achieve that goal, it will be necessary to focus the scope of this rulemaking on the essential elements that will enable safety-focused, timely licensing decisions, and construction and transition to operation for new advanced reactors. A totally “clean sheet” approach involving proposals such as revisiting the linear no-threshold model for assessing health effects of radiation could divert attention and resources from the staff’s primary goal of developing a technology-inclusive regulatory framework. Nevertheless, and as a top priority, the staff plans to engage stakeholders in a discussion of the Part 53 rulemaking scope early on in our interactions to ensure a shared understanding of what will be included in the final rule. However, the Commission-approved schedule may reduce participation in early scoping interactions from outside organizations due to their resource constraints or competing priorities, such as parallel work on licensing application efforts. The staff will also document topics that have merit but may need to be postponed until a future rulemaking.
- Engagement on key issues within the NRC and communicating constructively with external stakeholders and the ACRS. Previous NRC activities related to developing performance criteria and providing possible operational flexibilities in other rulemakings have included constructive but extended interactions within the staff and with external stakeholders. These interactions played an important role in developing a common understanding of the criteria and actions necessary to reduce the potential for unintended consequences and future misunderstandings. To mitigate this potential challenge to completing the rulemaking by October 2024, the staff is planning extensive interactions during the development of the proposed rule, including releasing preliminary proposed draft rule language to solicit feedback and better inform the staff’s proposals.
- The timing of guidance document development to support the Part 53 rulemaking. The 2024 rulemaking timeline will necessitate focusing resources within the NRC, industry organizations, and standard development organizations on developing the proposed rule language. The timing of these activities will also coincide with interactions between the staff and developers on advanced reactor designs and possible applications. This may leave fewer resources available for developing the associated draft guidance at the same time. The NRC may need to publish the proposed Part 53 rule for public comment before completing the draft supporting guidance for some portions of the rulemaking. The staff has contractor support in place to assist in the generation of supporting documents and will also be engaging the industry to support the development of draft guidance documents. To mitigate this potential risk, the staff plans to engage external stakeholders to ensure common prioritization of guidance documents that must be developed and to work diligently on those that are needed early to support the rulemaking, early applications, or broader efforts such as the Advanced Reactor Demonstration Program being sponsored by the Department of Energy (DOE).

- Ability of the public to review the proposed rule within the 60-day public comment period. A public comment period for a rulemaking of this size and complexity normally would be 120 to 180 days. There is a high likelihood that the NRC will receive requests for an extension of the proposed 60-day public comment period, which could impact publication of the final rule by October 2024. NEI's letter dated October 21, 2020, and other interactions with external stakeholders have already identified some concerns related to successfully completing a transformational rulemaking by October 2024. To mitigate this potential risk, the staff is planning extensive stakeholder engagement during the development of the draft proposed rule, including frequent release of preliminary proposed rule language and public meetings every 4 to 6 weeks. However, some stakeholders, especially those representing smaller advanced reactor design firms or non-governmental organizations, may be challenged to participate in the Part 53 public outreach activities on an ongoing basis and may wait until the proposed rule documents are released to begin their review.
- Ability to include the regulatory framework and requirements for fusion facilities in the final Part 53 rule by 2024. In SRM-SECY-20-0032, the Commission directed the staff to "consider appropriate treatment of fusion reactor designs in our regulatory structure by developing options for Commission consideration on licensing and regulating fusion energy systems." The staff plans to build from recent interactions such as the joint DOE, NRC, and Fusion Industry Association public forum to develop options for the regulation of fusion energy systems. The staff's assessments of the potential risks posed by various fusion technologies and possible regulatory approaches for fusion facilities will be done in parallel with developing the draft proposed rulemaking package for Part 53 to support an options paper to the Commission. The draft proposed Part 53 rule will be developed with the aim of accommodating fusion technologies as much as possible to maintain flexibility for future Commission direction on the appropriate approach for licensing and regulating fusion energy systems.

Under the proposed Table 1 timeline, the Commission decision on the staff's fusion options paper could occur contemporaneously with the Commission decision on the proposed Part 53 rule. Should developments or Commission direction on fusion technologies necessitate additional time to finalize Part 53, the staff would recommend a separate rulemaking to address fusion facilities that would extend beyond 2024 but would be completed before 2027. This would comply with the requirements of the Nuclear Energy Innovation and Modernization Act to provide a regulatory framework including fusion by December 2027. This approach would allow the staff more time to focus on the industry's near-term need for a technology-inclusive framework for advanced fission reactors such as those included in DOE's Advanced Reactor Demonstration Program while also allowing additional time to assess fusion technologies to better incorporate them into a technology-inclusive regulatory framework.

As the staff develops the proposed and final Part 53 rule, the staff will use existing communication tools to keep the Commission informed on the progress of the rulemaking and any additional challenges that are identified related to publication of the final rule by October 2024.

The Office of the General Counsel has no legal objection to this action. The Office of the Chief Financial Officer has reviewed this paper and has no concerns with the resource estimates in the enclosure.

Enclosure:

Resource Estimates to Complete the
Rulemaking Supporting a Risk-Informed,
Technology-Inclusive Regulatory Framework
for Advanced Reactors

cc: SECY
OCA
OPA

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Pkg: ML20288A240, Memo: ML20288A251, Enclosure 1: ML20288A260 ***Via e-mail**

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