

U.S. Nuclear Regulatory Commission Public Meeting Summary

July 14, 2021

Title: Part 53 Risk-Informed, Technology-Inclusive Regulatory Framework for Advanced Reactors Rulemaking – Subpart F and Part 73 Security Rule Language

Meeting Identifier: 20210746

Date of Meeting: June 10, 2021

Location: Webinar

Type of Meeting: Comment-Gathering

Purpose of the Meeting(s):

The Nuclear Regulatory Commission (NRC) staff hosted another webinar to provide an opportunity for external stakeholders and the NRC staff to exchange information on the NRC's development of Part 53 preliminary proposed rule language for advanced nuclear reactors.

General Details:

The NRC has been directed by Congress through the Nuclear Energy Innovation and Modernization Act to conduct a rulemaking to establish a technology-inclusive regulatory framework for optional use by commercial advanced nuclear reactors by 2027. In Staff Requirements Memorandum (SRM)-SECY-20-0032, dated October 2, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20276A293), the Commission directed the NRC staff to target the final rule publication by October 2024. To facilitate stakeholder engagement throughout the development of the proposed rule, the NRC staff is hosting a series of public meetings to discuss and review feedback on various regulatory topics and preliminary proposed rule language for Part 53.

Prior to the June 10, 2021 public meeting, the NRC staff released preliminary proposed rule language for subpart F, "Requirements for Operations," Sections 53.820 – "Emergency Preparedness" and 53.830 – "Security Program." The NRC staff also released preliminary proposed rule language for Part 73, "Physical Protection of Plants and Materials," Section 73.100 – "Technology Neutral Requirements for Physical Protection of Licensed Activities at Advanced Nuclear Plants Against Radiological Sabotage," Section 73.110 – "Technology Neutral Requirements for Protection of Digital Computer and Communication Systems and Networks," and Section 73.120 – "Access Authorization." These sections were made available to the public on June 4, 2021, in ADAMS under accession number ML21148A062. To support the discussion of the preliminary proposed rule language, the NRC staff provided a separate "Discussion Table" for each section. These documents were made available to the public on June 4, 2021, in ADAMS under accession numbers ML21145A028 (Section 53.820), ML21145A029 (Section 53.830), ML21145A047 (Section 73.100), ML21145A043 (Section 73.110), and ML21145A035 (Section 73.120), respectively. The meeting also included an overview of potential changes to Part 26, "Fitness for Duty Programs," for advanced nuclear reactors.

The meeting proceeded in a “workshop” format, which gave stakeholders an opportunity to provide input on the preliminary proposed rule language and ask direct questions of the NRC staff. The meeting was attended by over 204 people participating through webinar and audio teleconferencing.

Summary of Presentations:

Robert Beall, Rulemaking Project Manager, in the NRC’s Office of Nuclear Material Safety and Safeguards, opened the meeting and introduced himself as the NRC Project Manager for the Part 53 rulemaking and the meeting facilitator. He noted that this meeting is a comment gathering public meeting and that no regulatory decisions would be made at the meeting. Mr. Beall advised participants on the features of the teleconference platform and how to ask questions. Following Mr. Beall, Mr. Robert Taylor, Deputy Office Director in the Office of Nuclear Reactor Regulation, made additional opening remarks. Mr. Beall then introduced several other members of the NRC staff, including Mr. Steven Vitto, Mr. Brad Baxter, Mr. Paul Harris, Mr. Juris Jauntirans, Mr. Eric Schrader, Ms. Nanette Valliere, and Mr. Bill Reckley.

After Mr. Beall, Steven Vitto provided an overview of the security and emergency preparedness (EP) objectives. Following Mr. Vitto, Eric Schrader presented the preliminary proposed rule language for subpart F, Section 53.820, “Emergency Preparedness.” Following Mr. Schrader, Mr. Vitto presented on subpart F, Section 53.830, “Security Program.” and Part 73, Section 73.100, “Technology Neutral Requirements for Physical Protection of Licensed Activities at Advanced Nuclear Plants Against Radiological Sabotage.” Following Mr. Vitto, Mr. Jauntirans presented Part 73, Section 73.110, “Technology Neutral Requirements for Protection of Digital Computer and Communication Systems and Networks.” Following Mr. Jauntirans, Mr. Baxter presented Part 73, Section 73.120, “Access Authorization.” Following Mr. Baxter, Mr. Harris presented an overview of the advanced reactor fitness for duty (FFD) program. Following Mr. Harris, Marc Nichol from the Nuclear Energy Institute presented the industry’s perspective on manufacturing licenses. Following Mr. Nichol, Mr. Reckley presented additional topics regarding future NRC staff public engagement activities related to the Part 53 rulemaking. Following each of the above segments, the floor was opened to the public to provide feedback on the topics discussed in the presentation.

Mr. Beall then made brief closing remarks, including noting future public meetings, providing contact information for participants to use to provide input on topics of discussion in future Part 53 public meetings, identifying the regulations.gov docket number for submitting public comments, and noting that participants in the public meeting can submit feedback to improve the structure of future public meetings.

Public Participation Themes:

Key stakeholders as well as several members of the public raised questions and provided comments related to the preliminary proposed rule language. Topics of discussion are listed below and grouped by agenda item. This is a high-level summary and not an exhaustive list of topics discussed during the meeting.

Subpart F – Section 53.820, “Emergency Preparedness”

Stakeholders noted that public comments have been provided on the proposed “Emergency Preparedness for Small Modular Reactors and Other New Technologies” rulemaking and asked if the NRC staff has addressed public comments on 10 CFR 50.160, “Emergency preparedness for small modular reactors, non-light-water reactors, and non-power production or utilization facilities,” which is referenced in the Part 53 preliminary proposed rule language within Section 53.830.

Subpart F – Section 53.830, “Security Program”

- Stakeholders asked the NRC staff to clarify the flowchart regarding licensee possession of category I material and clarify the term “hypothetical unmitigated event.”
- A stakeholder asked the NRC staff to address why protected or vital areas that are discussed in Part 26 for FFD and Section 73.56 for access authorization, are not addressed in this section.
- Stakeholders expressed concern that the preliminary proposed rule language appears to weaken standards established already in other rules and that the level of security may end up lower than the current operating fleet.
- A stakeholder asked the NRC staff to consider how this section’s requirements apply to microreactors, remote operations, factory assembly, fuel loading, and to what extent licensees could rely on local law enforcement agencies (LLEAs).

Part 73 – Section 73.100, “Technology Neutral Requirements for Physical Protection of Licensed Activities at Advanced Nuclear Plants Against Radiological Sabotage”

- Stakeholders asked the NRC staff to consider eliminating duplicative requirements and clarify the language in Section 73.100(b)(1)(7) with respect to access controls, Section 73.100(d) with respect to the boundary of searches, and Section 73.100(e) with respect to the frequency of security reviews and the need for force-on-force inspections.
- Stakeholders asked the NRC to consider alternatives to the corrective action program and the potential to reduce the need for drills to confirm compliance.
- Stakeholders noted that some of the Section 73.100 requirements are prescriptive and should be revised to be more performance-based and give licensees more flexibility. Stakeholders recommended linking performance requirements back to Section 53.210.

Part 73 – Section 73.110, “Technology Neutral Requirements for Protection of Digital Computer and Communication Systems and Networks”

- Stakeholders asked the NRC staff to clarify the relationship between cyber attacks and the design basis threat (DBT). Stakeholders emphasized security and the DBT should account for real world threats that may overlap with a plant safety event.
- Stakeholders asked about the scope and magnitude of consequences of a cyber attack that compromises critical digital assets. Stakeholders suggested a consequence-based assessment may be appropriate.

Part 73 – Section 73.120, “Access Authorization”

- Stakeholders asked the NRC staff to clarify the distinction between regulatory and nonregulatory security.
- Stakeholders noted that the administrative and behavioral observation are not properly risk-informed and could burden smaller facilities. Stakeholders suggested the NRC staff consider graded approaches or exemptions for microreactors.

Part 26 – Overview of Fitness for Duty (FFD) Requirements

- Stakeholders asked if Criterion B could be modified such that FFD requirements only apply in cases where an operator action, inaction, or inadvertent action due to impairment would lead to a radiological safety hazard.
- Stakeholders asked the NRC staff to clarify how the new FFD requirements would apply to research and test reactors, non-power production or utilization facilities, and those installed for industrial process heat applications.
- Stakeholders raised concerns about proper behavioral observation and monitoring for offsite staff with remote access to a facility.

Manufacturing Licenses (ML)

- The NRC staff and stakeholders discussed factory testing of fully assembled and fueled advanced reactors and how different types of operating licenses would be required. The NRC staff emphasized that complexities mainly emerge once the reactor is fueled and operated, and could require onsite licensed operators and inspections.
- The NRC staff and stakeholders discussed the potential revisions to existing NRC regulations, including Parts 55, 70, 71, 72, and 73 which may be needed to accommodate new advanced reactor manufacturing and distribution business models.
- The NRC staff and stakeholders discussed how inspection, tests, analyses, and acceptance criteria requirements may also need revision to accommodate new advanced reactor business practices.

Other Topics

- Stakeholders expressed interest in seeing the complete preliminary proposed rule and how all provisions work together.
- Stakeholders also expressed interest in conducting a “table-top” exercise to examine how a hypothetical advanced reactor design would be evaluated through the Part 53 licensing process from start to finish.

Action Items/Next Steps:

The NRC staff will continue to announce public meetings to discuss and receive feedback on various regulatory topics and preliminary proposed rule language. In advance of a future public meeting, any preliminary proposed rule language will be posted on www.regulations.gov under docket ID NRC-2019-0062. The NRC staff will also be meeting with the Advisory Committee on Reactor Safeguards - Future Plant Designs subcommittee on July 21, 2021.

Public meeting participants were encouraged to email any comments from issues raised during the public meeting to either Robert Beall at Robert.Beall@nrc.gov or Bill Reckley at William.Reckley@nrc.gov.

Attachments:

- Meeting Agenda – ML21152A183
- Meeting Presentation Slides – ML21148A059
- Meeting Transcript – ML21166A233

- Part 53 Preliminary Proposed Rule Language for Subparts A, B, C, D, E, and F - "Requirements for Operation" – 10 CFR 53.820 and 53.830, and Part 73, "Physical Protection of Plants and Materials" – 73.100, 73.110, and 73.120 – ML21148A062
- Discussion Table for Preliminary Rule Language for the Part 53 Rulemaking: Subpart F - "Requirements for Operation," Section 53.820 – "Emergency Preparedness" – ML21145A028
- Discussion Table for Preliminary Rule Language for the Part 53 Rulemaking: Subpart F - "Requirements for Operation," Section 53.830 – "Security Program" – ML21145A029
- Discussion Table for Preliminary Rule Language for the Part 53 Rulemaking: Part 73, Section 73.100 – "Technology Neutral Requirements for Physical Protection of Licensed Activities at Advanced Nuclear Plants Against Radiological Sabotage" – ML21145A047
- Discussion Table for Preliminary Rule Language for the Part 53 Rulemaking: Part 73, Section 73.110 – "Technology Neutral Requirements for Protection of Digital Computer and Communication Systems and Networks" – ML21145A043
- Discussion Table for Preliminary Rule Language for the Part 53 Rulemaking: Part 73, Section 73.120 – "Access Authorization" – ML21145A035