U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

ACRS Full Committee Meeting:

Rulemaking Plan on Revision of Inservice Testing and Inservice Inspection Program Update Frequencies Required in 10 CFR 50.55a

July 7, 2021

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

NRC Staff

- Presenter:
  - Mark Yoo, RES: Technical Staff
- Working Group Members:
  - Sheldon Clark, OGC: Attorney
  - Victoria Huckabay, NMSS: Rulemaking PM
  - David Rudland, NRR: Technical Lead
  - Thomas Scarbrough, NRR: Technical Staff
  - Ian Tseng, NRR: Technical Staff

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Agenda

- Purpose of the SECY Paper
- Background
- Regulatory Issue
- Proposed Rulemaking
  - Scope
  - Process
  - Schedule
- Staff's Recommendation

Purpose of the SECY Paper

- SECY-21-0029 was issued March 15, 2021.
- Request Commission approval to initiate a rulemaking to amend 10 CFR Part 50.55a to extend the interval of inservice testing (IST) and inservice inspection (ISI) program updates.
  - Current 120-month update interval would be extended to 240 months, after updating to the most recent Codes and addenda incorporated by reference in § 50.55a.
  - Requests Commission to delegate signature authority to the EDO.
- Request Commission approval and delegations for a **potential** subsequent rulemaking to extend update interval from 240 months to 288 months.

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Background

- 10 CFR 50.55a incorporates by reference various codes and standards, including:
  - ASME Operation and Maintenance Code (OM Code)
  - ASME Boiler and Pressure Vessel (BPV) Code, Section XI, Division 1
  - ASME BPV Code, Section III, Division 1
- Per § 50.55a(f)(4) and (g)(4), licensees are required to update their OM Code and Section XI "Codes of record" every 120 months.
- Section III "Code of record" is generally maintained throughout the life of the plant.

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Background

- Effort began as an NRR EMBARK Venture Studios (EVS) project.
- Developed ideas to streamline regulating using § 50.55a to:
  - Improve the clarity of § 50.55a
  - Improve process efficiency for the use of ASME Codes and Code Cases
  - Increase flexibility to licensees in implementing their IST and ISI programs
- Conducted multiple outreach activities with internal and external stakeholders.
- Recommendations documented in EVS Report (ML20153A752).

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Background

- Identified 3 recommendations to pursue:
  1. Relax the requirement to update IST and ISI programs every 120 months.
  2. Institute direct final rules for unconditionally approved code cases.
  3. Decrease frequency of ASME Code editions rulemakings.
- SECY requests rulemaking for Recommendation 1.
  - Would provide improved flexibility and burden reduction to licensees while maintaining safety
  - Recommendation is outside the scope of delegation for routine ASME Code updates and requires Commission approval.
- Staff will implement Recommendations 2 and 3.
  - Recommendations are within the staff's delegated authority for rulemaking.

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Background

- Also considered eliminating incorporation by reference of ASME BPV Code, Sections III and XI, and ASME OM Code from § 50.55a and endorsing the Codes through a regulatory guide.

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Background

- SECY-00-0011 discussed the staff's recommendation to replace the 120-month IST and ISI update requirements with a baseline of IST and ISI requirements and voluntary updates to NRC-endorsed Code editions without prior NRC approval.
  - Baseline requirements: 1995 Edition with the 1996 Addenda of the ASME OM and BPV Codes.
- The ACRS recommended to retain the current 120-month update interval.
- The Commission via SRM disapproved the staff's recommendation and approved the option to retain the current update interval.

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Regulatory Issue

- Licensee IST and ISI programs describe licensee's implementation of the ASME OM Code and ASME BPV Code, Section XI requirements, respectively.
- 10 CFR 50.55a requires that every 120 months licensees must update IST and ISI programs to the latest edition and addenda of the ASME OM and BPV Section XI Codes incorporated by reference within 18 months of the start of 120-month interval.
  - 120-month interval corresponds to the 10-year ISI interval in ASME BPV Code, Section XI, IWA-2430.

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Regulatory Issue

- Major modifications to ASME Codes typically take more than a decade.
  - 2009 Edition of OM Code included improved IST requirements for motor-operated valves ⇨ in response to a 1989 NRC Generic Letter.
  - 2017 Edition of OM Code included improved IST requirements for active air-operated valves ⇨ in response to a 2000 NRC Regulatory Issue Summary.
- Discovery of new degradation mechanisms has slowed greatly in recent years.
  - Last degradation mechanism discovered was primary water stress-corrosion cracking, which was in the early 2000s.
  - Subsequently addressed in ASME BPV Code Section XI.

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Regulatory Issue

- There is a long history and established process of developing improvements and updates to the ASME Codes.
- Discovery of new degradation mechanisms or performance issues are typically first addressed by ASME using Code Cases before incorporating into an edition.
  - NRC would continue reviewing new or revised Code Cases for incorporation into the regulations on a biannual basis.
  - One of EVS recommendations would be to incorporate non-controversial Code Cases using an expedited process.
  - NRC can mandate the use of certain Code Cases to supplement the current Code of record if new safety concerns are identified.

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Rulemaking Scope

- The proposed rulemaking would double the time between updates for the licensee's Codes of record for IST and ISI programs from **120 months** to **240 months** for licensees that update to the most recent edition and addenda of the ASME OM Code and BPV Code, Section XI incorporated by reference
  - Current 120-month ISI program update interval corresponds to the current 10-year ISI interval in ASME BPV Code, Section XI.
- The proposed rulemaking would primarily affect:
  - 10 CFR 50.55a(f)(4), "Inservice testing standards requirements for operating plants"
  - 10 CFR 50.55a(g)(4), "Inservice inspection standards requirements for operating plants"

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Rulemaking Scope

- Potential future rulemaking to extend the update requirement from 240 months to 288 months.
  - ASME is considering extending current ISI interval to 12 years.
  - Staff is not currently proposing to conduct this rulemaking and ASME has not yet extended the interval.
  - Staff requests Commission approval for the additional rulemaking and delegation of authority to the EDO.

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Rulemaking Process

- Typical rulemaking process includes development of rulemaking plan, regulatory basis, proposed rule, and final rule.
- Staff recommended omitting preparation of regulatory basis and proceeding with proposed rule development.
- Staff recommended that the proposed rule and final rule be delegated to the EDO, who would redelegate to the Director of NRR.

Rulemaking Schedule

- SECY is currently with the Commission.
  - Deliver proposed rule to NRR OD – 12 months after receipt of Commission's SRM.
  - Deliver final rule to NRR OD – 12 months after comment period for proposed rule closes.
- This rulemaking may be combined with the next routine ASME Code Edition or Code Case rulemaking.

Staff's Recommendation

- Staff recommends that the Commission:
  - Approve initiation of a rulemaking to extend the interval for the IST and ISI program updates from 120 months to 240 months, after updating to the most recent Codes incorporated by reference in § 50.55a.
  - Approve a future rulemaking to extend the interval from 240 months to 288 months if ASME increases the ISI interval to 12 years.
  - Approve the staff's request not to develop a regulatory basis for these rulemakings.
  - Delegate signature authority for these actions to the EDO.

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

QUESTIONS?

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

BACK UP SLIDES

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Recommendation on Priority

- Based on the Common Prioritization of Rulemaking Methodology, the preliminary priority for this rulemaking is medium.
  - Indirect contributor toward the safety goal (enhancing NRC's regulatory programs and risk-informing the current regulatory framework by prioritizing efforts to focus on the most safety-significant issues).
  - Significant contributor to the efficiency and reliability principles of Good Regulation (Efficiency and Reliability).
  - Moderate contributor to the governmental priority (future regulatory benefit).
  - Moderate contributor to the public priority (moderate public participation and moderate burden reduction).

Estimate of Resources

- If approval to initiate rulemaking is received in FY 2021, costs associated with rulemaking development in FY 2021 through FY 2023 are expected to be low.
  - Additional efficiencies will be realized if staff is able to combine rulemaking with a routine ASME Code Edition or Code Case rulemaking
- Proposed rulemaking would result in cost savings to licensees
  - Each IST and ISI program update costs an estimated $1M per reactor unit

EVS Recommendations

Recommendation 2: Direct Final Rule for unconditionally-approved ASME Code Cases.

- Incorporation by reference of these Code Cases should be non-controversial.
  - Developed through a consensus standards process.
- Only one adverse public comment was submitted related to unconditioned Code Case in the last three ASME Code Case rulemakings.
  - Staff determined the requested condition was not needed.
- Results in improved efficiency as it would allow licensees to use new approaches and technologies more promptly.
  - Reduces NRC and licensee resources spent on the submittal and review of alternative requests.

EVS Recommendations

Recommendation 3: Decrease the frequency of rulemakings to incorporate ASME Code editions.

- Reducing the frequency continues to maintain safety while reducing expenditure of staff resources.
- This would alleviate bottlenecks that may come with implementing Recommendation 2, as OMB accepts only one rulemaking per CFR part at a time.
- With Recommendation 1, there would not be a strong driver to incorporate by reference new Code editions into § 50.55a on the current 2-year cycle.
- The review of each edition would still be documented as each edition is released.

10 CFR 50.55a Rulemaking Delegation of Authority

- Until 1976, the Commission approved each rulemaking to incorporate by reference certain portions of the ASME Code into § 50.55a.
- Via SRM, the Commission delegated the authority to the EDO for amendments that are routine in nature and represent the updating of basic codes and standards.
- In 2010, the EDO informed the Commission that he intended to redelegate the authority to the Director of NRR.
  - Expected to increase the speed at which new Code editions could be incorporated into regulations, increase accountability, and reduce inefficiencies and redundancies.
  - Only applies to rulemakings pertaining to ASME BPV Code, Sections III and XI, the ASME OM Code, and related regulatory guides.