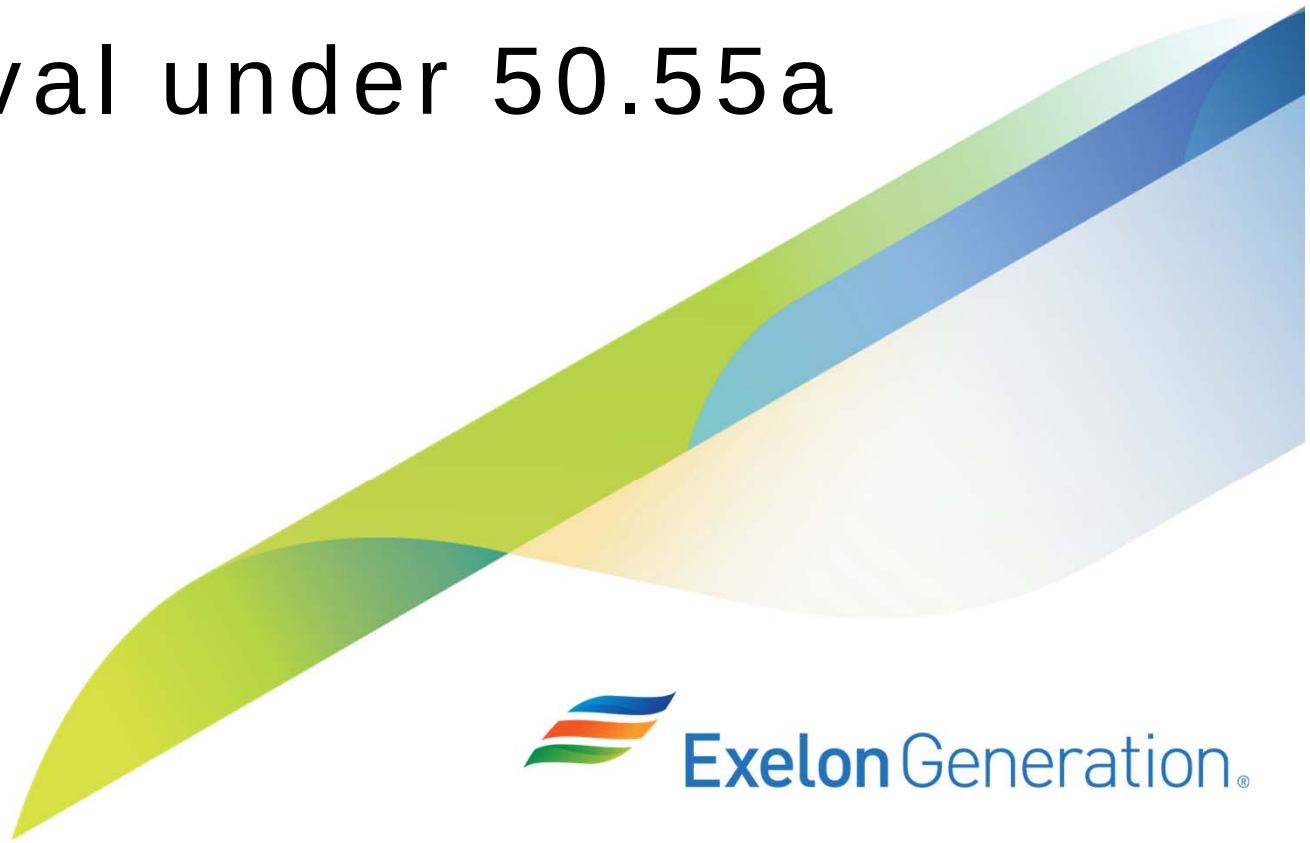
Pre-Submittal Meeting for Exelon Relief Request: Extend 120-month ISI/IST Interval under 50.55a



Exelon Generation®

Agenda

- Relief Requests Under 50.55a(z)
- Safety Basis for the Current 120-Month Update Requirement
- Policy Implications of SECY-00-0011
- Overview of NRC Precedent
- The Specific Relief Request
- Key Takeaways
- Questions/Comments

Relief Requests Under 50.55a(z)

- 50.55a(z) provides that the NRR Director may approve alternatives "to the requirements of paragraphs (b) through (h) of this section or portions thereof"
  - The plain language of the regulation does not prescribe specific sections for which alternatives may be proposed
  - Relief request Subsections (b), (f), and (g) and are clearly within the scope of the rule
  - 50.55a(z) 120-month interval requirements reflect requirements of the ASME Code
- Only one of 2 criteria in 50.55a(z) must be met:
  - The proposed alternative would provide an acceptable level of quality and safety, or
  - Compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety

The text of 50.55a(z) clearly permits relief requests from ISI/IST update intervals

Safety Basis for the Current 120-Month Update Requirement

- The NRC staff has already acknowledged the maturity of the ASME Code and the minimal increase in safety from each update:
  - When changing the update interval from 40 to 120 months in 1979, the NRC stated that "Extending the period for revising the program is not considered a significant relaxation of safety requirements since Section XI is a relatively mature code and new code changes generally deal with practical considerations of implementation or the application of new developments. New code changes do not normally modify the safety aspects of the code." Final Rule, 44 FR 57912 (Oct. 9, 1979)
  - In 1999, the NRC again acknowledged that "As the ASME Code matures, the NRC finds that the overall safety increase associated with periodic revisions to the ASME Code is becoming smaller," and that "The NRC believes that the overall level of safety achieved by adherence to a baseline edition or addenda of the ASME Code incorporated by reference in the regulations would be sufficient and adequate, and that unnecessary burden might be placed upon licensees by the required updating of their ISI and IST programs." Supplemental Proposed Rule, 64 FR 22580 (Apr. 27, 1999)
- The Code has continued to mature since then and the safety benefits between Code editions are even smaller than was previously recognized by the staff 40 years ago

Policy Implications of SECY-00-0011

- NRC proposed to "**eliminate** the requirement to update ISI and IST programs every 120 months for licensees applying the baseline or later editions and addenda of the ASME Code incorporated by reference in the regulations." Supplemental Proposed Rule, 64 FR 22580 (Apr. 27, 1999)
- Rulemaking and Commission records contain no mention or consideration of **modifying** (as opposed to wholly eliminating) the interval period
- In SECY-00-0011, staff recommended the Commission "Replace the 120-month ISI/IST update requirement with a baseline of ISI and IST requirements and allow voluntary updating to entire subsequent NRC-endorsed ASME Code editions and addenda without prior NRC approval unless the baseline is revised in accordance with 10 CFR 50.109…"
- The Commission disapproved the recommendation to completely eliminate mandatory updates, but the question of whether the update interval could be modified was not before it

Exelon's relief request does not implicate Commission policy

Overview of NRC Precedents

- NRC has generically acknowledged the use of 50.55a(z) (or its equivalent) for interval changes
  - In the 2002 Code update rulemaking, NRC generally acknowledged that 50.55a(a)(3) (predecessor of 50.55a(z)) could be used to extend or reduce 120-month intervals. Final Rule, 67 FR 60520, 60522 (Sept. 26, 2002)
  - Watts Bar Nuclear Plant, Units 1 and 2, 50.12 Exemption Request (Dec. 12, 2013) to align update interval dates between Units 1 and 2 (ML13358A066)
    - ✓ Request later withdrawn, but NRC stated that "the request is not clear why an exemption to Part 50 of the current regulations is necessary for these two objectives…" and suggested that TVA review the Code requirements and "determine if a relief request is necessary." (ML14057A720)
- NRC approvals of 120-month interval modifications through 50.55a(z):
  - Indian Point Nuclear Generating Unit No. 3 (July 18, 2018) (ML181938030)
  - Fitzpatrick Nuclear Power Plant (August 4, 2017) (ML17158B295)
  - Limerick Generating Station, Units 1 and 2 (January 24, 2007) (ML063390103)
  - Arkansas Nuclear One, Unit 1 (Mar. 8, 2007) (ML070740527)
  - Point Beach Nuclear Power Plants, Units 1 and 2 (June 18, 2001) (ML011570015)

The Specific Relief Request

- Submittal would be a request for alternative under 50.55a(z), *Alternatives to codes and standards requirements*
- The alternative would be to extend the ISI Program and IST Program mandatory code update interval from 10 years to 24 years for the entire Exelon fleet
- Exelon's request provides an acceptable level of quality and safety and eliminates a significant hardship
- Goal is to submit the requests by end of October

The Specific Relief Request

- ASME Section XI currently breaks up inspections into “periods” (three/four/three years) for the 10-year interval
- If the alternative update interval is approved, Exelon would also establish four-year “periods” (four/four/four) for 12 years
  - ➢ The current 10-year ISI inspections would be completed in 12 years
  - ➢ Supports the “skip” outage concept as well as the two-year fuel cycles
  - ➢ At 24 years, the program would be updated to the new edition of the Code
- ISI inspections essentially extended 2 years over a 12-year interval
- IST does not have “periods”

The Specific Relief Request

- Under the current 10-year update interval:
  - Equipment is challenged because of more frequent cycling for ISI/IST
  - Requires additional trains/divisions of equipment to be removed from service resulting in a reduction in available trains of safety equipment
  - Creates unnecessary procedure revisions to update plant documents
  - Results in greater volume of relief requests
  - Training
- 10-year update interval results in significant financial impact in a time of economic and market challenges
  - Cost of an ISI or IST ASME Code update for a dual unit or single unit site has grown to approximately $1,000,000 per interval
  - Add significant administrative burden

The Specific Relief Request

- Exelon will request relief from the following provisions of 10 CFR 50.55a and the ASME Codes:
  - 10 CFR 50.55a(b)(5)(ii), (iii)
  - 10 CFR 50.55a(b)(6)(ii), (iii)
  - 10 CFR 50.55a(f)(4)(i), (ii)
  - 10 CFR 50.55a(f)(5)(iv)
  - 10 CFR 50.55a(g)(4)
  - 10 CFR 50.55a(g)(5)
  - ASME B&PV Code, Section XI, 2007 Edition, no Addenda, and 2013 Edition:
    - ✓ IWA-2410 - APPLICATION OF CODE EDITION AND ADDENDA
    - ✓ IWA-2430(a) through (g) - INSPECTION INTERVALS
    - ✓ IWA-2431 - INSPECTION PROGRAM
    - ✓ Table IWB-2411-1, IWC-2411-1, IWD-2411-1, IWE-2411-1, and IWF-2410-1 – Inspection Program – These Tables provide the calendar years for each period (3 years, 7 years,10 years)
  - ASME OM-2004/OMB 2006, and 2012 Edition:
    - ✓ ISTA-3120 - Inservice Examination and Test Interval

Key Takeaways

- NRC's regulations allow alternatives to the mandatory Code update interval of 120 months
- NRC has long acknowledged that the ASME Code is mature and that updates provide a minimal safety benefit
- Exelon's proposed alternative interval will provide an adequate level of safety and quality and will relieve a significant hardship created by 120-month interval updates
- Existing Commission policy from 2000 does not preclude staff approval of this proposed alternative
- NRC has approved similar applications of 50.55a(z) to extend or shorten the ISI/IST update interval
- Current NRC policies on risk-informing decision-making bolster Exelon's relief request

QUESTIONS/COMMENTS