

POLICY ISSUE
NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary
FROM: Commissioner Baran
SUBJECT: SECY-21-0029: Rulemaking Plan on Relaxation of
Inservice Testing and Inservice Inspection Program
Update Frequencies Required in 10 CFR 50.55a

Approved Disapproved Abstain Not Participating

COMMENTS: Below Attached None

Entered in STARS

Yes
No

Signature

10/22/21

Date

**Commissioner Baran's Comments on SECY-21-0029,
"Rulemaking Plan on Revision of Inservice Testing and Inservice Inspection Program
Update Frequencies Required in 10 CFR 50.55a"**

Since 1971, American Society of Mechanical Engineers (ASME) consensus codes and standards developed by a broad range of technical experts have been part of NRC's regulatory framework for nuclear power plants. ASME consensus codes establish inservice testing (IST) and inservice inspection (ISI) program requirements for the design, construction, operation, and maintenance of nuclear power plant structures, systems, and components. The IST requirements establish standards for active components such as pumps and valves, while the ISI requirements establish standards for passive components like pipes, vessels, and welds. The IST and ISI programs help maintain the integrity of the reactor coolant pressure boundary and the reactor containment, which are essential to safety.

Every 10 years, licensees are required to update their licensing basis codes to the latest addition of the ASME code in effect at that time. This ensures that safety improvements reflected in the codes are adopted by licensees over time. The ASME codes have incorporated significant safety improvements over the years, including methods for the detection, analysis, and mitigation of primary water stress-corrosion cracking in pipes and welds, advancements in active motor-operated valve testing, and improved requirements for air-operated valves.

In this paper, the NRC staff recommends relaxing the code adoption requirement to provide licensees 20 years to update to the most recent code, twice the current interval. If ASME separately increases its suggested ISI interval to 12 years, the NRC staff recommends relaxing the agency's update requirement to 24 years.

The staff presents no convincing safety case for this deregulatory proposal. Instead, the staff emphasizes that power plant licensees could save \$1 million per reactor every 20 years if they were allowed to skip every other 10-year update. The staff does assert that 10-year updates are unnecessary because recent editions of the code are "mature."¹ This conclusion is based on the degradation mechanism of primary water stress-corrosion cracking being discovered over a decade ago. The staff does not offer much analysis beyond that. The staff, for example, does not discuss how new light-water reactor technologies may use different valves, materials, and components that could experience different degradation mechanisms than those addressed by the current version of the code. There is no analysis at all for why 20 years would be an optimal update interval, let alone 24 years. It appears to simply be an arbitrary doubling of ASME's interval, which (unlike the staff's interval) was developed through a rigorous technical consensus process. Should the ASME consensus process result in an interval increase to 12 years, it would make sense for NRC to consider a rulemaking to align our requirements with the new 12-year interval.

The claim that the current code is mature and that future updates are not expected to yield significant safety benefits is the same argument that the NRC staff made in 2000. That argument was rejected by both the Commission and the Advisory Committee on Reactor Safeguards (ACRS). And, contrary to the predictions of the staff, substantial code enhancements were identified and adopted in the intervening two decades. Commissioner McGaffigan stated at the time, "The safety and reliability of the nuclear industry have benefitted significantly from the consistent improvements in the ASME Code. The Code is one of the

¹ SECY-21-0029 at 8.

NRC's great success stories.”² In 2000, the Chairman of ACRS also noted that “[t]he license renewal process is predicated on the demonstration that any effects of aging on critical plant systems will be adequately managed. Effective ISI and IST programs are crucial to this demonstration and to public confidence in the license renewal process.”³ He pointed out that “[c]hanges in the Code reflect the latest knowledge.”⁴ These observations remain true today.

The case for weakening the current standard is remarkably thin in light of the staff’s earlier characterization of the concept as a “major relaxation of long-standing, successful regulatory practice” with a “high” potential for unintended consequences.⁵ There is no real staff response to an industry consultant’s concern “that there could be an erosion of safety if this approach is adopted and that the efficiency gains for the industry may be overstated.”⁶ The staff’s policy paper does not even acknowledge that the industry consultant “strongly advocated for 10-year updates as the ASME Code improves over time and the NRC incorporates later editions.”⁷ Under the staff’s proposal, if a significant safety improvement comes along during the longer update interval, it would require a full notice-and-comment rulemaking to implement it rather than it being incorporated automatically with the 10-year update.

In short, ASME code updates play a vital role in ensuring the safety of nuclear power plants. The requirements in 10 CFR 50.55a have been effective at incorporating consensus safety improvements for decades. If we are going to make a change to an effective regulatory program, there should be a strong safety case for doing so. Here, the arguments made by the staff are wholly unpersuasive. The suggested rulemaking does nothing to improve safety.

For these reasons, I disapprove initiating a rulemaking to weaken the agency’s inservice testing and inservice inspection program update requirements.

² Comments on Commissioner McGaffigan on SECY-00-0011 (Apr. 3, 2000).

³ Letter from Dana Powers, Chairman, ACRS, to Chairman Meserve (Feb. 8, 2000) at 1.

⁴ *Id.* at 1-2.

⁵ NRC public meeting handout (Feb. 11, 2020) at 6 (ML 20031D254).

⁶ Embark Venture Studio, 10 CFR 50.55a Project Final Report (June 1, 2020) at 10 (ML20153A752).

⁷ *Id.*