



**U.S.NRC**

UNITED STATES NUCLEAR REGULATORY COMMISSION

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**NRC Liaison Report & Updates**  
***Snubber User Group (SNUG) 2022 Meeting***  
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## Disclaimer

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## Topics for Discussion

- Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.55a Rulemaking Updates
- Regulatory Guide (RG) Rulemaking Update – OM Code Case Acceptability
- Use of Code Case OMN-13, “Performance-Based Requirements for Extending Snubber Inservice Visual Examination Interval at LWR,” and visual examination frequency
- Part 21 Hydraulic Snubber Fluid Degradation at Various Plants
- General Communication
- Conclusion



## 10 CFR 50.55a Rulemaking Updates – ASME Code in current 10 CFR 50.55a

- Last ASME Code Rulemaking
  - Issued on May 4, 2020
  - *Federal Register*, Vol. 85, No. 86, pages 26540-26581
  - Effective on June 3, 2020
- Incorporates by Reference in 10 CFR 50.55a:
  - 2015 Edition through 2017 Edition of ASME OM Code, Division 1, with Conditions
  - 2015 Edition through 2017 Edition of ASME B&PV Section III, Division 1, with Conditions
  - 2015 Edition through 2017 Edition of ASME B&PV Section XI, Division 1, with Conditions
- For current 10 CFR 50.55a, see [www.ecfr.gov](http://www.ecfr.gov)



## 10 CFR 50.55a Rulemaking Updates - ASME Code in current 10 CFR 50.55a (cont.)

- Specific items incorporated in the rulemaking related to the ASME OM Code include:
  - Revise 10 CFR 50.55a(f)(4)(i) and (ii) and (g)(4)(i) and (ii) to relax the time scheduled for complying with the latest edition and addenda of the ASME OM and BP&V Codes for IST and ISI Programs, respectively, from 12 months to 18 months.
  - Streamline the reference to editions of the ASME OM Code in each condition to simplify future 10 CFR 50.55a rulemaking, and to update specific conditions to reflect the latest ASME OM Code editions.



## 10 CFR 50.55a Rulemaking Updates – Proposed ASME Code Requirements

- Scope of the proposed rulemaking:
  - 2020 Edition of ASME OM Code, Division 1
  - 2019 Edition of ASME B&PV Code Section III, Division 1
  - 2019 Edition of ASME B&PV Code Section XI, Division 1
  - Conditions on the above
- Proposed rulemaking for these Code editions was published in *Federal Register* on March 26, 2021 (86 FR 16087), with a 60-day public comment period which ended on May 26, 2021.
- The final rulemaking is currently scheduled to be published in the summer of 2022.



## 10 CFR 50.55a Rulemaking Updates – Proposed ASME Code Requirements (cont.)

- Specific items of interest in the proposed rulemaking related to the ASME OM Code include:
  - Remove the incorporation by reference of the 2011 Addenda of the ASME OM Code from 10 CFR 50.55a(a)(1)(iv)(B)(2) and consequently remove the condition on the use of the 2011 Addenda specified in 10 CFR 50.55a(b)(3)(vii) as well as the reference to the 2011 Addenda in 10 CFR 50.55a(b)(3)(ix).
  - Remove the incorporation by reference of the 2015 Edition of the ASME OM Code from 10 CFR 50.55a(a)(1)(iv)(C)(2) and the reference to the 2015 Edition in 10 CFR 50.55a(b)(3)(ix).
  - Remove the condition on the use of Subsection ISTB in the 2011 Addenda of the ASME OM Code based on the removal of its incorporation by reference in 10 CFR 50.55a.



## 10 CFR 50.55a Rulemaking Updates – Proposed ASME Code Requirements (cont.)

- Specific items of interest in the proposed rulemaking related to the ASME OM Code include (cont.):
  - Incorporate by reference Subsection ISTE in the 2020 ASME OM Code Edition without conditions.
  - Modify 10 CFR 50.55a(f)(4) to clarify the relationship between 50.55a(f)(4) and (g)(4) regarding the inservice testing (IST) or inservice inspection (ISI) programs for snubbers. Include a provision that for snubbers, inservice examination, testing and service life monitoring for the IST or ISI program must meet the inservice examination and testing requirements set forth in the applicable ASME OM Code or ASME BPV Code, Section XI, as specified in 10 CFR 50.55a(b)(3)(v)(A) and (B)





## **10 CFR 50.55a Rulemaking Updates – Proposed ASME Code Requirements (cont.)**

- Specific items of interest in the proposed rulemaking related to the ASME OM Code include (cont.):
  - In light of the removal of the IST Program Plan submittal requirement from the 2020 Edition of the ASME OM Code, add 10 CFR 50.55a(f)(7) to require nuclear power plant applicants and licensees to submit their IST Plans updates and interim updates related to pumps and valves, and IST /ISI Plans updates related to dynamic restraints (snubbers) examination and testing to the NRC.
  - In 10 CFR 50.55a(b)(3)(xi), allow extended interval for position indication testing required in ISTC-3700 for valves not susceptible to stem-disk separation.



## 10 CFR 50.55a Rulemaking Updates – OM Code Cases in current 10 CFR 50.55a

- Last Regulatory Guide (RG) Rulemaking
  - RG 1.192, Rev. 4, “O&M Code Case Acceptability, ASME OM Code”
  - RG 1.147, Rev. 20, “Inservice Inspection Code Case Acceptability, ASME BPV Section XI, Division 1”
  - RG 1.84, Revision 39, “Design, Fabrication, and Materials Code Case Acceptability, ASME BPV Section III”
  - Published March 3, 2022
  - *Federal Register*, Vol. 87 FR 11934
  - Effective date was April 4, 2022.



## **10 CFR 50.55a Rulemaking Updates – OM Code Cases in current 10 CFR 50.55a (cont.)**

- Revision 4 of RG 1.192, Revision 39 of the RG 1.84 and Revision 20 of RG 1.147 address the acceptability of:
  - ASME OM Code Cases published at the time of the 2020 Edition of the ASME OM Code and available at that time on the ASME Codes & Standard (C&S) Connect Website.
  - Code Cases from the ASME BPV Code, Sections III and XI, listed in Supplement 0 through 7 to the 2015 Edition of the ASME BPV Code, Section XI, and Supplement 1 to the 2019 Edition of the ASME BPV Code.
  - Current NRC regulations in 10 CFR 50.55a incorporate by reference these specific revisions to RGs 1.192, 1.84, and 1.147.



## **10 CFR 50.55a Rulemaking Updates – ASME OM Code Cases and IST/ISI Code of Record Interval Rulemaking Effort (cont.)**

- NRC staff drafting a proposed 10 CFR 50.55a rule in response to NRC Commission Paper SECY-21-0029 and Staff Requirements Memorandum SRM-SECY-21-0029.
- Proposed rule will address acceptability of most recent ASME BPV Code Cases and OM Code Cases by updating applicable RGs.
- Proposed rule will consider extension of Code of Record update requirement in 10 CFR 50.55a from 10 years to 20 or 24 years for licensees with a Code of record of 2019 Edition of ASME BPV Code and 2020 Edition of ASME OM Code.



## **10 CFR 50.55a Rulemaking Updates – ASME OM Code Cases and IST/ISI Code of Record Interval Rulemaking Effort**

- Proposed rule planned to be issued for public comment in early 2023.



## Use of Code Case OMN-13 and Visual Examination Frequency

### Issue:

- NRC staff observed that some plants are not meeting the frequency provisions for snubber visual examination specified in Code Case OMN-13.

### Requirements

- Code Case OMN-13, Section 3.7(a), “Frequency of Examinations,” specifies that “All snubbers within the scope of Subsection ISTD shall be examined and evaluated per this Code Case at least once every 10 yr.”
- ASME OM Code, Subsection ISTA, “General Requirements,” paragraph ISTA-3170 , “Inservice Examination and Test Frequency Grace,” provision to allow extended frequency does not apply to snubber visual examination and testing in Subsection ISTD.



## Use of Code Case OMN-13 and Visual Examination Frequency (cont.)

### Guidelines:

- Code Case OMN-13 does not provide any grace period to the frequency of 10 years.
- While using Code Case OMN-13, the licensee needs to schedule the visual examination of all snubbers in their scope such that visual examination frequency shall not exceed 10 years.
- While using Code Case OMN-13, if the licensee has come to an outage and finds they will exceed to 10 years, they did not conduct a proper analysis in determining scope during the previous refueling outage. In this case, the licensee would need to request an alternative to exceed the 10-year maximum.



## Part 21 Hydraulic Snubber Fluid at Various Plants

### Background

- Hydraulic snubber fluid SF1154 is manufactured and supplied by Momentive Performance Materials Company.
- Momentive is not a Quality Assurance (QA) qualified company and supplies commercial grade fluid.
- Vendors (i.e., Lake Engineering & Curtis-Wright) and snubber manufacturers purchase commercial grade fluid SF1154 from Momentive, and dedicate this fluid as QA qualified and supply to various plants.



## Part 21 Hydraulic Fluid at Various Plants

### Notification of Anomaly

- Lake Engineering received notifications from some of the nuclear plants that, while filling a snubber in the snubber shop, soft solid material in the form of white flakes was observed in the supplied Fluid SF1154 from Batches 14ELVS145, 11ELVS146, ZJS1518, 17BLVS293, and 18CLVS431.
- Curtis-Wright received a notification from some of the nuclear plants that, while filling a snubber in the snubber shop, soft solid material in the form of white flakes was observed in the supplied fluid Batches 14ELVS145 and 17BLVS293.



## Part 21 Hydraulic Fluid at Various Plants (cont.)

### Part 21 Information (from 2017 thru 2019):

- In 2017 thru 2019, NRC received various letters regarding 10 CFR Part 21 report “Potential Degraded Snubber SF1154 Hydraulic Fluid”:
  - May 1, 2017, Lake Engineering letter regarding SF1154 Fluid Batch 14ELVS145 (ADAMS Accession No. ML17355A139).
  - July 25, 2018, Lake Engineering letter regarding Fluid SF1154 Batch 11ELVS146 (ADAMS Accession No. ML18211A302).
  - March 5, 2017, Lake Engineering letter regarding Fluid SF1154 Batch ZJS1518 (ADAMS Accession No. ML19077A096).
  - April 5, 2019, Curtis-Wright (EnerTech) letter regarding Fluid SF1154 Batch 14ELVS145 (Event Notice No. 54001).
- Lake Engineering completed an evaluation of the above batches of Part 21 hydraulic fluid, and concluded that no substantial safety hazards exist (ADAMS Accession No. ML17212A628, ML17313A471, ML17355A139, ML18295A199, ML19008A043, and ML19071A112).



## Part 21 Hydraulic Fluid at Various Plants (cont.)

### Part 21 Information (2020):

- In 2020, NRC received various letters regarding 10 CFR Part 21 report “Potential Degraded Snubber SF1154 Hydraulic Fluid”:
  - June 8, 2020, Lake Engineering letter regarding SF1154 Fluid Batch 17BLVS293 (ADAMS Accession No. ML20178A308).
  - December 28, 2020, Lake Engineering letter regarding Fluid SF1154 Batch 18CLVS431 (ADAMS Accession No. ML22019A176).
  - November 18, 2020, Curtis-Wright (Enertech) letter regarding Fluid SF1154 Batch 17BLVS293 (ADAMS Accession No. ML20366A045).



## Part 21 Hydraulic Fluid at Various Plants (cont.)

### Evaluation:

- Details about Lake Engineering and Curtis-Wright evaluations and their status regarding various nuclear plants using hydraulic fluid SF1154 Batches 17BLVS293 and 18CLVS431 are summarized in the table on next slides.

## Part 21 Hydraulic Fluid at Various Plants (cont.)

SF 1154 Fluid Batch	Part 21 Reported By	Plants	Status
17BLVS293 (Momentum)	Curtiss-Wright (EnerTech) November 18, 2020 (ADAMS Accession No. ML20366A045)	Shearon Harris Palisade Diablo Canyon Comanche Peak Beaver Valley Grand Gulf Arkansas Nuclear One Perry Watts Bar	Evaluation ongoing
17BLVS293 (Momentum)	Lake Engineering, June 8, 2020 (ADAMS No. ML20178A308)	Millstone Grand Gulf Beaver Valley Sequoyah Peach Bottom Duane Arnold Fitzpatrick Seabrook Waterford 3 NTS ( <b>National Testing Service</b> ) (Hatch, Peach Bottom and Indian Point 2) Palisade	Evaluation complete. No substantial safety hazards ML20241A081 ML20296A276 ML21014A234 ML21146A246 ML21225A081

## Part 21 Hydraulic Fluid at Various Plants (cont.)

SF 1154 Fluid Batch	Part 21 Reported By	Plants	Status
18CLVS431 (Momentive)	Lake Engineering, December 28, 2020. (ML22019A176) and March 3, 2022 (ML22067A172)	Waterford 3 ANO Beaver Valley South Texas Project Sequoyah Seabrook NTS	Evaluation complete for  Waterford 3 Beaver Valley South Texas Project Sequoyah Seabrook No substantial safety hazards exist  Evaluation ongoing for ANO NTS (ML22067A172)



## General Communication

- NRC is in the process of publishing NUREG/CP-0152, Vol. 11, with the technical papers presented during the NRC/ASME O&M (formally Pumps, Valves, and Snubbers) Fourteenth Symposium on January 20, 2022.

## Conclusions

- Licensees who believe that some of the items discussed in this presentation are applicable to their facilities may wish to review their current snubber program and modify their program as appropriate.





# Questions?

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