

# Proposed Rule: ASME Code Case and ISI/IST Update Frequency

MARCH 20, 2023

88 FR 13717



# Introduction

**Dennis Andrukat**

Rulemaking Project Manager

2





# NRC Speakers



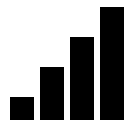
**David Rudland:** Inservice inspection and inservice examination and testing update intervals



**Chakrapani “Pani” Basavaraju:** Code Cases – ASME BPV Code, Section III



**Mike Benson:** Code Cases – ASME BPV Code, Section XI

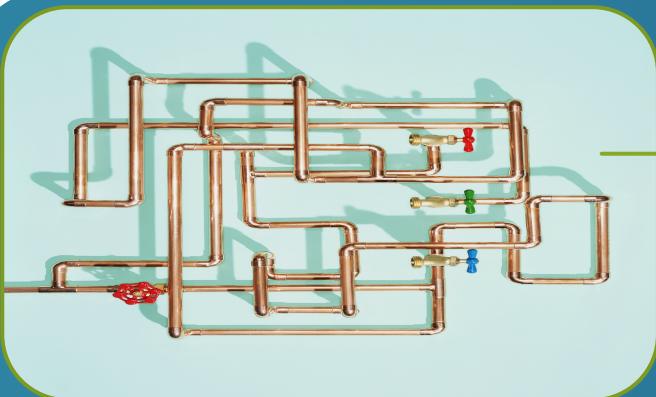


**Thomas Scarbrough:** Code Cases – ASME OM Code

# Proposed Rule - Elements



## Code of Record and ISI/IST interval updates



## ASME Code Cases endorsed by NRC for use

- ASME BPV Code, Section III
- ASME BPV Code, Section XI
- ASME OM Code



## PROPOSED RULE:

Code of Record and  
ISI/IST interval updates

### **David Rudland**

Senior Technical Advisor for Materials,  
Division of New and Renewed Licenses,  
Office of Nuclear Reactor Regulation  
(NRR)



# Background

- ▶ EMBARK Venture Studio - Recommended efforts to streamline 10 CFR 50.55a - ML20153A752
- ▶ SRM-SECY-21-0029 (ML21312A490), Commission approved staff request to
  - Initiate a rulemaking to extend the current 10-year Code of record (COR) update interval to 20-years, after updating to the most recent Codes and addenda incorporated by reference in § 50.55a
  - Initiate a potential subsequent rulemaking to extend COR update interval from 20-years to 24-years
  - Delegate signature authority to the Executive Director of Operations



# Background

- ▶ In early 2022, ASME published BPV Code Case N-921 and OM Code Case OMN-31, which provide for 12-year ISI and IST intervals, respectively, as an alternative to the 10-year intervals currently in the ASME codes. ASME requested Code Case N-921 be included in the Rev 40 rulemaking (ML22046A112)
- ▶ SECY-22-0075 (ML22124A178) – Informational SECY – Staff's plan to address new information and changed circumstances that affect the implementation of SRM-SECY-21-0029
  - Combine the two proposed rulemaking into one
  - Make conforming changes to 10 CFR 50 Appendix J
  - Add conforming and clarifying changes to address issues encountered during the development of the proposed rule

# Background

SECY-21-0029  
(ML20273A286)



SRM-SECY-21-0029  
(ML21312A490)



Informational  
SECY  
SECY-22-0075  
(ML22124A178)



# Combine the Two Proposed Rulemakings

- ▶ Needed to avoid a misalignment, e.g., 20-year COR interval with a 12-year ISI/IST Interval
- ▶ Linking the COR update to the ASME ISI/IST program interval to ensure alignment, e.g., COR interval is equal to two consecutive ISI or IST program intervals once licensee has updated to the most recent edition of the code incorporated by reference in § 50.55a
- ▶ Proposed to condition both code cases to allow their use only by licensees that have updated to the ASME BPV Code and ASME OM Code, 2019–2020 editions (latest editions incorporated into § 50.55a) or later.
  - Consistent with Commission direction in SRM-SECY-21-0029

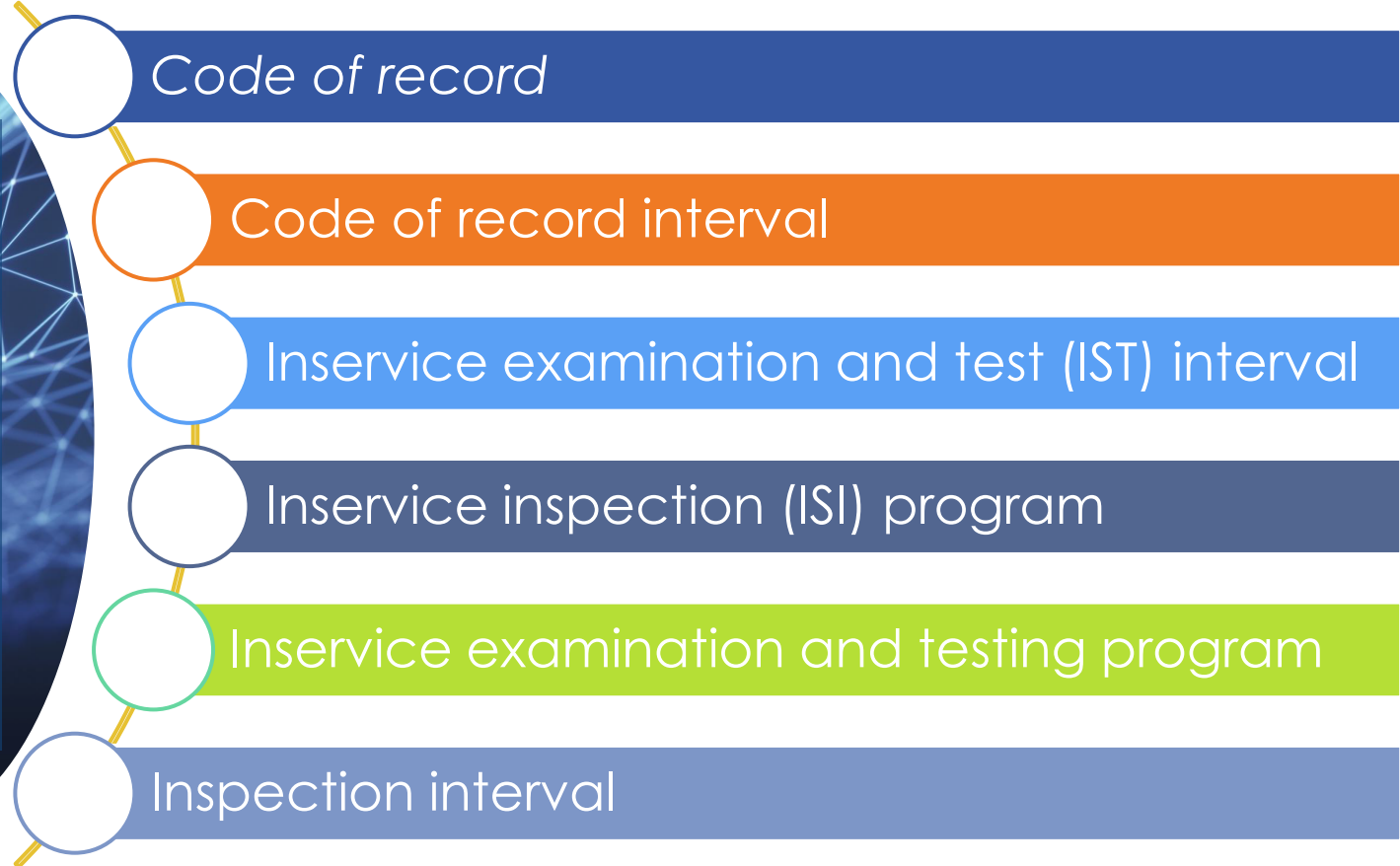
# Changes to 10 CFR Part 50, Appendix J

- ▶ Appendix J contains requirements for containment leak testing (including containment isolation valves)
- ▶ Type A tests for Option A requires three leak tests, the third must be performed “when the plant is shutdown for the 10-year plant inservice inspection.” References § 50.55a for these tests
- ▶ Staff proposes a revision to Appendix J to conform with the proposed changes to § 50.55a consistent with the alternative 12-year ISI/IST program interval



# Proposed Definitions

**Currently, 10 CFR 50.55a refers to the “120-month interval” in a variety of ways leading to confusion when differentiating between the ISI/IST interval and the COR interval**



# Proposed Rule Details

## 10 CFR 50.55a(y)

### CODE OF RECORD

- For the ASME BPV Code, Section XI, Section III or OM Code, the edition (and addenda) implemented by a licensee in accordance with the requirements of § 50.55a

### CODE OF RECORD INTERVAL

- The period of time between the code of record updates required by 10 CFR 50.55a (f)(4) and (g)(4)
  - For licensees with codes of record prior to ASME BPV Code, Section XI, 2019 Edition, and OM Code, 2020 Edition, the code of record interval is the same as the inspection interval or inservice examination and test interval.
  - For licensees with codes of record of ASME BPV Code, Section XI, 2019 Edition and OM Code, 2020 Edition, or later, the code of record interval is two consecutive inservice inspection or inservice examination and test intervals.

# Proposed Rule Details

## 10 CFR 50.55a(y)

### **INSERVICE EXAMINATION AND TESTING (IST) PROGRAM**

- The requirements for preservice and inservice examination and testing of pumps, valves, and dynamic restraints to assess their operational readiness in nuclear power plants

### **INSERVICE EXAMINATION AND TEST (IST) INTERVAL**

- The inservice examination and test interval described by the licensee's code of record



# Proposed Rule Details

## 10 CFR 50.55a(y)

### INSERVICE INSPECTION (ISI) PROGRAM

- The set of all administrative and technical requirements pertaining to periodic examination of nuclear components, as specified in ASME BPV Code, Section XI

### INSPECTION INTERVAL

- The inservice inspection interval described by the licensee's code of record

# Proposed Rule Details

## 10 CFR 50.55a and Appendix J

- Most changes to these sections to reflect new definitions and provide consistent wording
- We will discuss the proposed changes using a red-line strike-out the staff developed

---

---

**Unofficial Redline of the NRC's  
Proposed Rule:  
American Society of Mechanical Engineers Code  
Cases and Update Frequency  
NRC-2018-0291; RIN 3150-AK23; 88 FR 13717**

---

---

**U.S. Nuclear Regulatory Commission**  
Office of Nuclear Material Safety and Safeguards  
Division of Rulemaking, Environmental, and Financial Support

March 2023



# ASME ISI / IST Interval

## CURRENT

10

years

**ISI = IST**

*(same as current  
code of record)*



## PROPOSED

10

years

or

12

years

**ISI and/or IST  
interval**



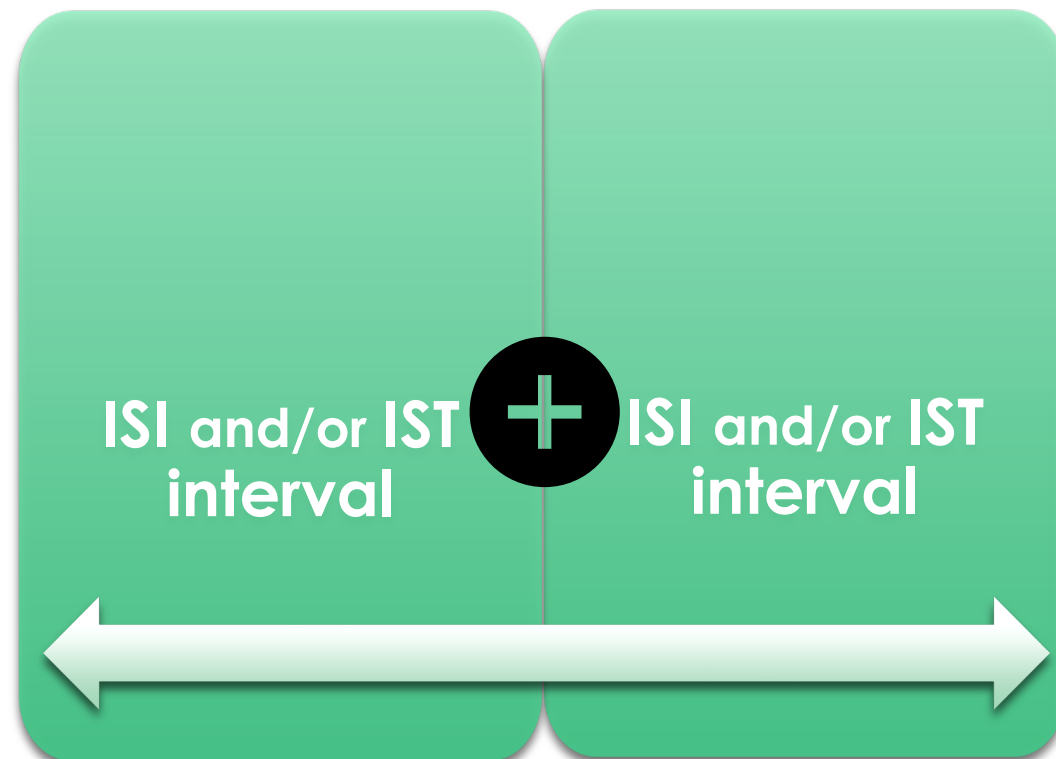
Must update to  
ASME 2019/2020  
editions or later

# Code of Record Interval

## CURRENT



## PROPOSED



Must update to  
ASME 2019/2020  
editions or later

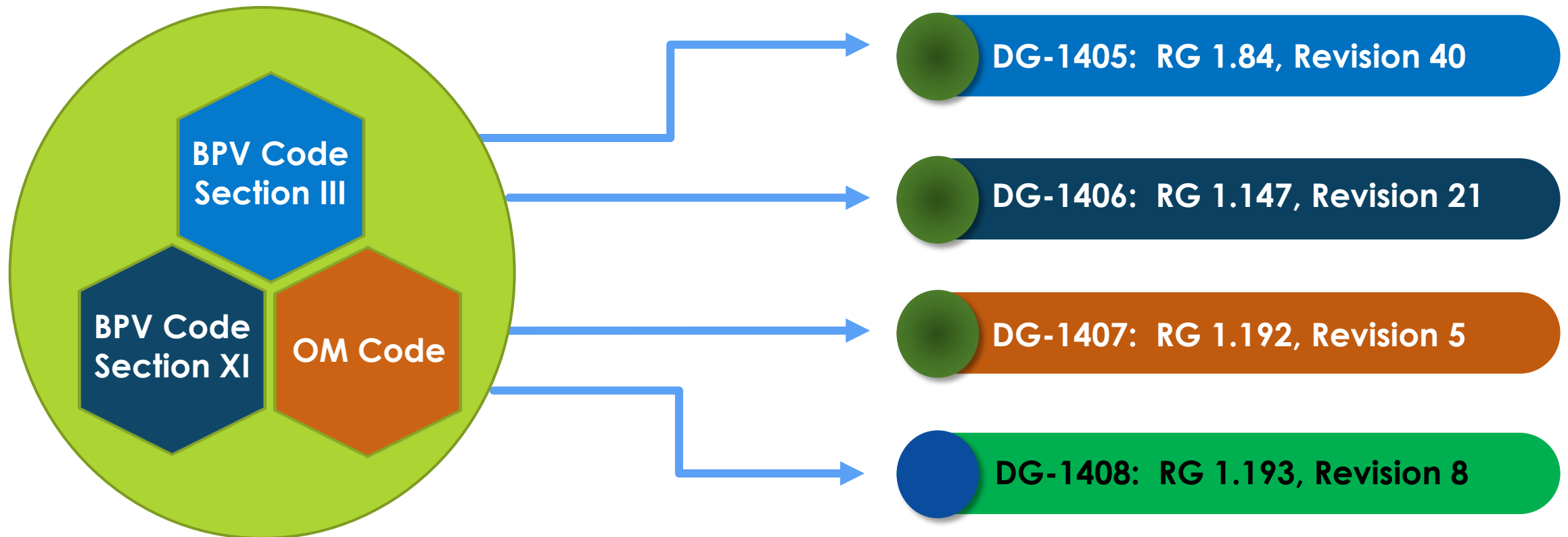
## PROPOSED RULE:

ASME Code Cases  
endorsed for use





# NRC-endorsed ASME Code Cases



# Code Cases - Breakdown

20

- ASME BPV Code, 2019 Edition, Supplements 2 through 7
- ASME BPV Code, 2021 Edition, Supplements 0 through 2 (*with an additional four code cases from Supplement 3*)
- ASME OM Code Cases, up to OMN-31

**49**

total number  
of code cases  
approved for  
use

**12**

total number  
of approved  
code cases  
with conditions

**BPV Section III:**

**13** approved for use, **2** with conditions;  
*4 disapproved for use;*

**BPV Section XI:**

**32** approved for use, **9** with conditions;  
*6 disapproved for use;*

**OM:**

**4** approved for use, **1** with conditions;



# Code Cases – ASME BPV Code, Section III

**Chakrapani Basavaraju**  
Mechanical Engineer, Division of  
Engineering and External  
Hazards, NRR





# ASME BPV Section III Code Cases

- ▶ NRC staff reviewed 10 new and 3 revised code cases for draft RG1.84, Revision 40
  - ▶ 10 New Code Cases without conditions (N-893, N-900, N-901, N-902, N-904, N-905, N-908, N-910, N-919, and N-920)
  - ▶ 1 Revised Code case without condition: N-351-1
  - ▶ 2 Revised Code Cases with conditions; N-71-21, and N-570-3
- ▶ N-71-21 Additional Materials for Subsection NF, Class 1, 2, 3, and MC Supports Fabricated by Welding, Section III, Division 1;
  - ▶ NRC placed 6 conditions
- ▶ N-570-3 Alternative Rules for Linear Piping and Linear Standard Supports for Classes 1, 2, 3, and MC, Section III, Division 1
  - ▶ Condition: Design for strength using the LRFD method of AISC N690-18 shall not be used

# Code Cases – ASME BPV Code, Section XI

**Mike Benson**

Materials Engineer, Division of  
New and Renewed Licenses,  
NRR



# ASME BPV Section XI Code Cases

24

- ▶ NRC staff reviewed 38 new and revised code cases for draft RG1.147, Revision 21
- ▶ Selected code cases
  - ▶ N-716-3 on alternative classification and examination requirements: proposed condition prohibiting its use for plants licensed after January 1, 2012
  - ▶ N-880-1 on alternative procurement requirements for nonstandard welded fittings: proposed condition to limit use of the case to NPS 2 or smaller fittings
  - ▶ N-906 on flaw evaluation procedure for cast austenitic stainless steel piping: proposed condition that ensures a bounding toughness value is assumed in the evaluation
  - ▶ N-921 on alternative 12-year inspection interval: proposed condition to require licensee update to the 2019 edition or later before applying the code case



# Code Cases – ASME OM Code

**Thomas Scarbrough**

Senior Mechanical Engineer,  
Division of Engineering and  
External Hazards, NRR

25



This Photo by Unknown Author is licensed under CC BY-SA

# ASME OM Code Cases

- ▶ NRC staff reviewed 4 new code cases for draft RG 1.192, Revision 5
- ▶ Draft includes the following new acceptable OM Code Cases:
  - ▶ OMN-28, Alternative Valve Position Verification Approach to Satisfy ISTC-3700 for Valves Not Susceptible to Stem-Disk Separation
  - ▶ OMN-29, Pump Condition Monitoring Program
  - ▶ OMN-30, Alternative Valve Position Verification Approach to Satisfy ISTC-3700
  - ▶ OMN-31, Alternative to Allow Extension of ISTA-3120 Inservice Examination and Test Intervals from 10 Years to 12 Years [proposed condition requires use of 2020 Edition or more recent editions of ASME OM Code]



BREAK

27





# Questions & Answers

OPEN TO ALL

28



# Closing Remarks

**Dennis Andrukat**

Rulemaking Project Manager

[Dennis.Andrukat@nrc.gov](mailto:Dennis.Andrukat@nrc.gov)

Proposed Rule published March 6, 2023 (88 FR 13717)

Public Comment Period ends May 5, 2023

Docket ID: NRC-2018-0291 ([www.regulations.gov](http://www.regulations.gov))

29

