

# Proposed Rule to Incorporate by Reference the 2019 and 2020 Editions of ASME Codes into 10 CFR 50.55a

August 21, 2020

# Agenda

- Purpose and Overview
- ASME Section III
- ASME Section III and XI (Quality Assurance)
- ASME Section XI
- ASME OM Code
- Open Discussion

# Purpose and Overview

Victoria Huckabay  
Division of Rulemaking, Environmental,  
and Financial Support  
Office of Nuclear Material Safety and  
Safeguards

# Purpose of Meeting

- Brief status of the ongoing 10 CFR 50.55a rulemakings
- Preliminary NRC views regarding rulemaking to incorporate by reference ASME 2019 and 2020 Editions
- NRC will consider information and perspectives discussed today when developing the proposed rule, but the NRC will not prepare written responses

# Two Ongoing Rulemakings

## 1. Proposed Rule: Incorporate by reference ASME Code Case regulatory guides (RGs)

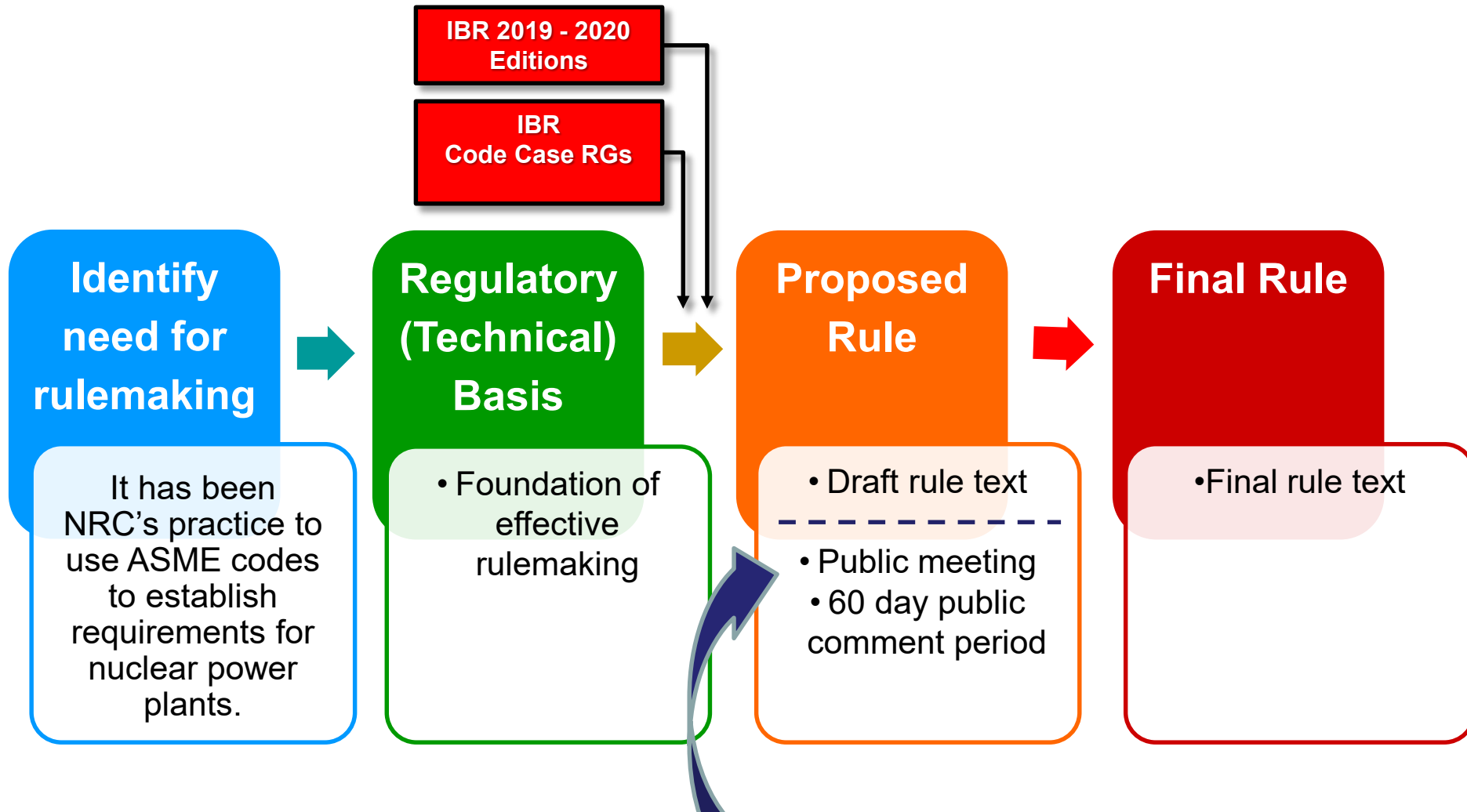
*(RIN 3150-AJ94, Docket ID NRC-2017-0025)*

- RG 1.84, Rev. 39
- RG 1.147, Rev. 20
- RG 1.192, Rev. 4

## 2. Proposed Rule: Incorporate by reference ASME BPV/OM 2019 – 2020 Code Editions

*(RIN 3150-AK22, Docket ID NRC-2018-0290)*

# Rulemaking Process



Opportunities for public participation

# Timeline – Code Case RG Rulemakings

Publication Year	ASME BPV Code Case Supplements	NRC Proposed Rule	NRC Final Rule	RG 1.84	RG 1.147	RG 1.192*
2007	0 1 2 3		72 FR 71750 (12/19/2007)	Rev. 34	Rev. 15	
2008	4 5 6 7					
2009	8 9 10 11 0	74 FR 26303 (6/2/2009)				
2010	1 2 3 4		75 FR 61321 (10/5/2010)	Rev. 35	Rev. 16	
2011	5 6 7 8					
2012	9 10 11					
2013	0 1 2 3	78 FR 37886 (6/24/2013)				
2014	4 5 6 7		79 FR 65776 (11/5/2014)	Rev. 36	Rev. 17	Rev. 1
2015	0 1 2 3 4					
2016	5 6 7	81 FR 10780 (3/2/2016)				
2017	0 1 2 3					
2018	4 5 6 7	83 FR 40685 (8/16/2018)	83 FR 2331 (1/17/2018)	Rev. 37	Rev. 18	Rev. 2
2019	0 1 2 3					
2020	4	<b>Target date: Fall 2020</b>	84 FR 14736 (3/16/2020)	Rev. 38	Rev. 19	Rev. 3
2021			<b>Target date: late 2021</b>	<b>Rev. 39</b>	<b>Rev. 20</b>	<b>Rev. 4</b>

\* Scope of RG 1.192 Revisions (OM Code Editions/Addenda)

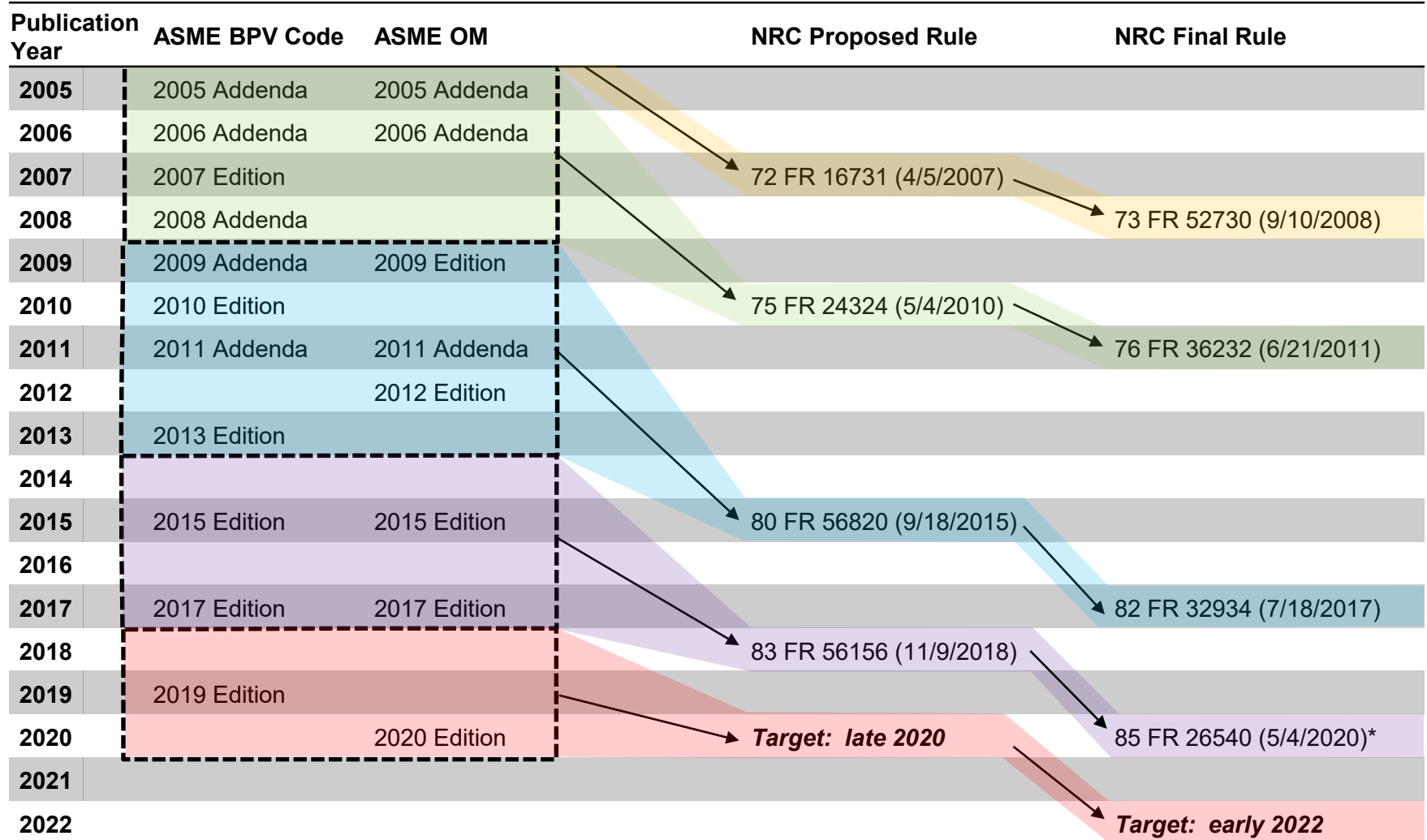
- Rev. 1: 2004 Edition, 2006 Addenda
- Rev. 2: 2009 Edition, 2011 Addenda, 2012 Edition
- Rev. 3: 2015 Edition, 2017 Edition
- Rev. 4: 2020 Edition

# 2020 ASME Code Case Proposed Rule - Schedule

- Proposed rule estimated publication in the *Federal Register*: Fall 2020
  - Public Comment period: 60 calendar days
- NRC will consider all public comments submitted to the docket
  - [www.regulations.gov](http://www.regulations.gov), Docket ID (NRC-2017-0025)
- Target date to publish final rule in the *Federal Register* by the end of 2021



# Timeline – Edition/Addenda Rulemakings



\* Correction Notice was published in 85 FR 34087 (6/3/2020)

# Scope of ASME 2019-2020 Editions Rulemaking

- Incorporate by reference the 2019 Edition of Section III, Division 1, of ASME BPV Code
  - One new condition being considered
  - Five revised conditions being considered
- Incorporate by reference the 2019 Edition of Section XI, Division 1, of ASME BPV Code
  - Three new conditions being considered
  - Amending seven existing conditions being considered
  - One condition is being considered for removal

# Scope of ASME 2019-2020 Editions Rulemaking (cont'd)

- Incorporate by reference the 2020 Edition of ASME OM
  - One new condition being considered
  - Amending six existing conditions being considered
  - One condition is being considered for removal

# Scope of ASME 2019-2020 Editions Rulemaking (cont'd)

- Propose to add new conditions:
  - One new condition on Section III rules
  - Three new conditions on Section XI rules
  - One new condition on OM Code rules
- The NRC staff will discuss the proposed conditions in more detail later in this presentation.

# ASME 2019-2020 Editions Rulemaking—Schedule

- Publish proposed rulemaking in the *Federal Register* by the end of 2020
- 60 days to submit public comments
- NRC will consider public comments submitted on the docket
  - Docket ID (NRC-2018-0290)
- Target date to publish final rule in the *Federal Register*: early 2022

# ASME Section III Conditions under Consideration

Dr. Chakrapani Basavaraju  
Division of Engineering  
and External Hazards  
Office of Nuclear Reactor Regulation

# Section III New Condition

- *Section III Condition: Preservice Inspection of Steam Generator Tubes.* Applicants or licensees applying the provisions of NB-5283 and NB-5360 in the 2019 Edition of Section III, must apply paragraphs (b)(1)(xiii)(A) through (B) of this section.

*(A) First provision.* When applying the provisions of NB-5283 in the 2019 Edition of Section III, a full-length preservice examination of 100 percent of the steam generator tubing in each newly installed steam generator must be performed prior to plant startup.

# Section III New Condition (cont'd)

- *Section III Condition: Preservice Inspection of Steam Generator Tubes. (cont'd)*

(B) *Second provision.* When applying the provisions of NB-5360 in the 2019 Edition of Section III, flaws revealed during preservice examination of steam generator tubing performed in accordance with paragraphs (b)(1)(xiii)(A) must be evaluated using the criteria in the design specifications.



# Section III Revised Conditions

- *Section 50.55a(b)(1)(ii): Section III Condition: Weld leg dimensions*
  - Subparagraphs NB–3683.4(c)(1) and NB–3683.4(c)(2): Condition Applicable to 1989 Addenda through the latest Edition.
  - Note 11 to Table NC–3673.2(b)–1 and Note 11 to Table ND–3673.2(b)–1: Condition Applicable to 2011 Addenda through the latest Edition.
- *Section 50.55a(b)(1)(iii): Section III, Condition: Seismic design of piping*
  - Applicable to 2006 Addenda through all Editions and addenda up to and including the latest Edition.

# Section III Revised Conditions (cont'd)

- *Section 50.55a(b)(1)(vii): Section III, Condition: Capacity certification and demonstration of function of incompressible-fluid pressure-relief valves*
  - Applicable to 2006 Addenda through all Editions and addenda up to and including the latest Edition.
- *Section 50.55a(b)(1)(x): Section III Condition: Visual examination of bolts, studs, and nuts*
  - Provisions are applicable to 2017 and later Editions of Section III.

# ASME Section III and XI Conditions under Consideration (Quality Assurance)

Raju Patel

Division of Reactor Oversight  
Office of Nuclear Reactor Regulation

# Section III Revised Condition

- *The NRC is proposing to:*
  - *Revise § 50.55a(b)(1)(iv) Section III condition: Quality Assurance*

# Section III Revised Condition (cont'd)



- Revise § 50.55a(b)(1)(iv) Section III Condition: Quality Assurance
  - The NRC is proposing to revise this condition to allow the use of the 2015 Edition of NQA-1 referenced in the 2019 Edition of the ASME BPV Code, Section III, Subsection NCA, Article 7000, which this rule is also incorporating by reference.
  - When implementing the 2019 Edition of ASME B&PV Code Section III, applicants and licensees may use the 2017 Edition of ISO/IEC 17025 until a new guidance is endorsed by the NRC, officially recognizing the 2017 Edition of ISO/IEC 17025.

# Section XI Revised Condition

- *The NRC is proposing to:*
  - *Revise § 50.55a(b)(2)(x) Section XI condition:  
Quality Assurance*

# Section XI Revised Condition (cont'd)

- *Revise § CFR 50.55a(b)(2)(x) Section XI condition: Quality assurance*
  - The NRC is proposing to revise this condition to approve for use the version of NQA-1 referenced in the 2019 Edition of the ASME BPV Code, Section XI, Table IWA 1600-1, “Referenced Standards and Specifications,” which this proposed rule is also incorporating by reference. This will allow licensees to use the NQA-1-2008 Edition, NQA-1a-2009 and NQA-1b-2011 Addenda to NQA-1-2008 Edition, NQA-1-2012 and NQA-1-2015 Editions when using the 2019 and later Editions of Section XI.
  - Also is being revised to remove the reference to IWA-1400. This revision clarifies the condition because the editions of NQA-1 are referenced in Table IWA 1600-1 instead of IWA-1400.

# ASME Section XI Conditions under Consideration

Keith Hoffman

Division of New and Renewed Licenses  
Office of Nuclear Reactor Regulation



# Section XI Revised Conditions

- *Section 50.55a(b)(2)(xviii) Section XI condition: NDE personnel certification:*
  - NDE personnel certification based on results of research to provide options
    - Level I – 175 hours experience, 125 experience/50 lab practice
    - Level II – 720 hours experience, 400 experience/320 lab practice and successful completion of Appendix VIII, Supplement 2 detection and length sizing
- *Section 50.55a(b)(2)(xxv) Section XI condition: Mitigation of defects by modification:*
  - Mitigation of defects by modification providing options for future examinations and eliminating some timing aspects

# Section XI Revised Conditions (cont'd)

- *Section 50.55a(b)(2)(xxvi) Section XI condition: Pressure testing Class 1, 2 and 3 mechanical joints:*
  - Considering the revision or elimination of condition
- *Section 50.55a(b)(2)(xxix) Section XI condition: Nonmandatory Appendix R:*
  - Allow use of 2017/2019 Editions Supplement 2 without submittal
- *Section 50.55a(b)(2)(xxxii) Section XI condition: Summary report submittal:*
  - Summary report submittal extended to 120 days

# Section XI Revised Conditions (cont'd)

- *Section 50.55a(b)(2)(xl) Section XI condition:  
Prohibitions on use of IWB-3510.4(b):*
  - Considering the prohibition of use of IWB-3510.4(b), IWC-3510.5(b), and Tables A-4200-1 and G-2110-1

# Section XI New Conditions

- Regulatory Submittal Requirements
  - Requires submittal to NRC of analysis performed in accordance with IWB-3720(a), A-4200(c), and G-2110(c)
- Use of Subsequent Editions and Addenda with Code Cases
  - Clarifies that no additional approval is required to use later editions/addenda referenced in an approved code case
- Operational Leakage
  - Clarifies treatment of operational leakage found in Class 1, 2, 3, MC, RISC-1, or RISC-3 components

# Section XI Removing Conditions

- *Section 50.55a(b)(2)(xv)(L) Specimen set and qualification: Twelfth provision:*
  - Appendix VIII, Supplement 8 Condition

# ASME OM Code

Robert Wolfgang  
Division of Engineering  
and External Hazards  
Office of Nuclear Reactor Regulation

# Specific OM Items of Interest in Proposed Rulemaking

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

# Specific OM Items of Interest in Proposed Rulemaking

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



# Specific OM Items of Interest in Proposed Rulemaking

- In light of removal of IST Program Plan submittal requirement from 2020 Edition of ASME OM Code, add 10 CFR 50.55a(f)(7) to require nuclear power plant applicants and licensees to submit IST Plans and interim IST Plan updates related to pumps and valves, and IST Plans and interim Plan updates related to snubber examination and testing, to NRC.
- Consideration of proposed relaxation of the interval for position verification testing required in ISTC-3700 for valves that are not susceptible to stem-disk separation.

# How to get involved?



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ASME Code Case RGs rulemaking	NRC-2017-0025

# Questions & Comments

## ASME 2019-2020 Rulemaking

Victoria Huckabay, Project Manager  
Division of Rulemaking, Environmental, and  
Financial Support  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Email: [Victoria.Huckabay@nrc.gov](mailto:Victoria.Huckabay@nrc.gov)

## ASME 2020 Code Case Rulemaking

Juan Lopez, Project Manager  
Division of Rulemaking, Environmental, and  
Financial Support  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Email: [Juan.Lopez@nrc.gov](mailto:Juan.Lopez@nrc.gov)



# How did we do?

- Link to NRC Public Meeting Feedback form:



# Acronyms

ADAMS	Agencywide Documents Access and Management System
ASME	American Society of Mechanical Engineers
BPV	Boiler and Pressure Vessel
CFR	<i>Code of Federal Regulations</i>
FR	<i>Federal Register</i>
IBR	Incorporation by Reference
ISI	Inservice Inspection
IST	Inservice Testing
NDE	Non-destructive Evaluation
NRC	Nuclear Regulatory Commission
OM	Operation and Maintenance

# Acronyms (cont'd)

RG	Regulatory Guide
RIN	Regulation Identifier Number
RISC	Risk-Informed Safety Class