

# Proposed Rule to Incorporate by Reference the 2009 through 2013 Editions/Addenda of ASME Codes into 10 CFR 50.55a

August 18, 2014

# Agenda



- Overview of Proposed Rulemaking
- NQA-1 Quality Assurance Requirements
- Code Cases Incorporated by Reference
- Proposed Section XI Conditions
- Open Discussion

# Overview of Proposed Rulemaking

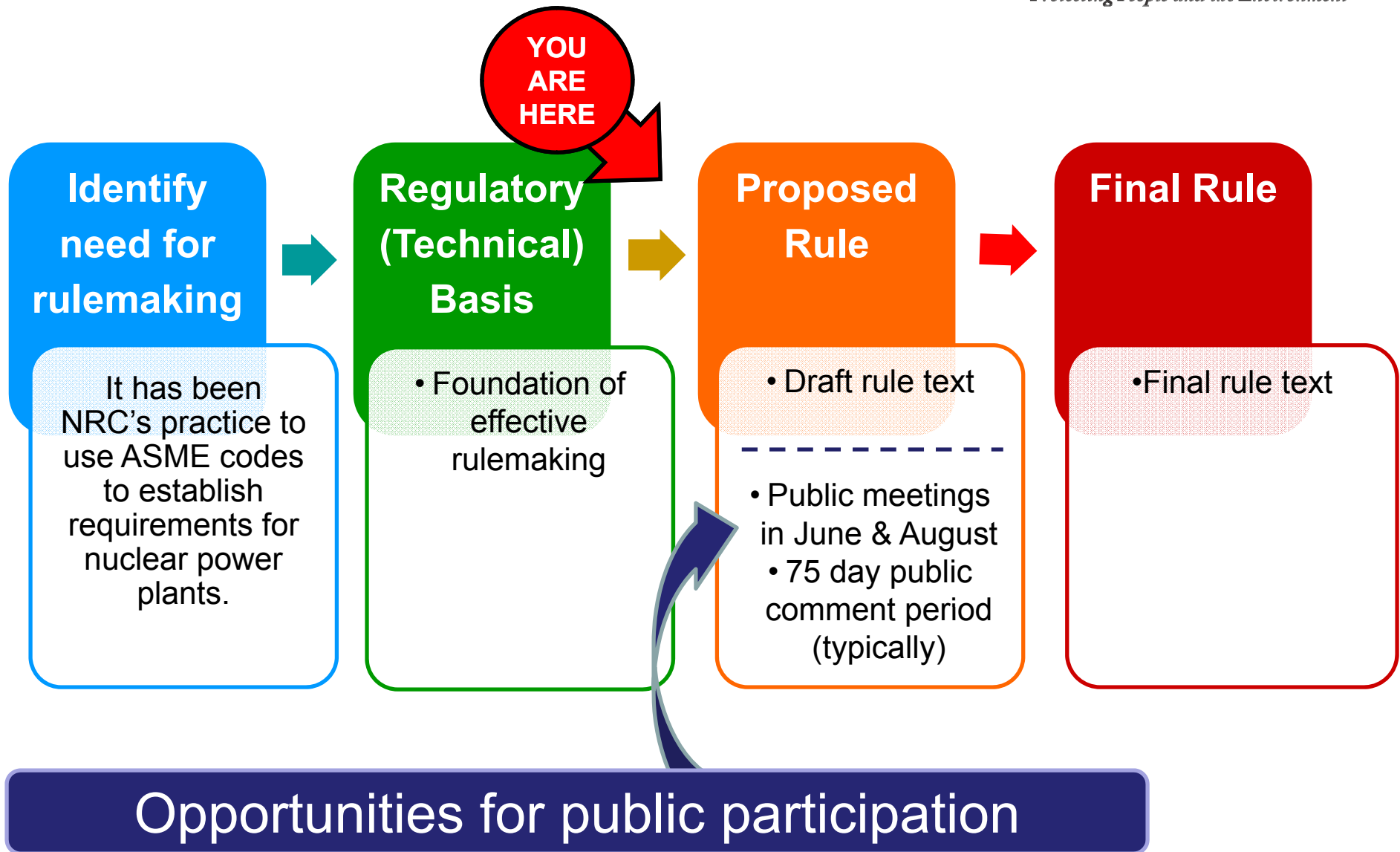
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Office of Nuclear Reactor Regulation

# Purpose of Meeting



- NRC will provide information to help stakeholders prepare comments on the proposed rule.
- NRC will consider information and perspectives discussed today when developing the proposed rule, but the NRC will not prepare detailed written responses.

# Rulemaking Timeline



# Scope of Rulemaking



- Incorporate by reference the 2009 Addenda through 2013 Edition of Section III, Division 1, of ASME BPV Code
- Incorporate by reference the 2009 Addenda through 2013 Edition of Section XI, Division 1, of ASME BPV Code
- Incorporate by reference the 2009 Edition through 2012 Edition of the OM Code

# Scope of Rulemaking (cont'd)



- Incorporate by reference ASME Standard NQA-1 for the first time
- Incorporate by reference three ASME Code cases:
  - Section XI Code Case N-729-4
  - Section XI Code Case N-770-2
  - Section XI Code Case N-824
- Remove outdated conditions
- Revise existing conditions

# Scope of Rulemaking (cont'd)



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



# Proposed Rulemaking Schedule



- Publish proposed rulemaking in the *Federal Register* in October 2014
- 75 days to submit public comments
- NRC will provide detailed written responses to written public comments
- Target date to publish final rule in the *Federal Register* is fall 2015

# ASME NQA-1

## “Quality Assurance Requirements for Nuclear Facility Applications”

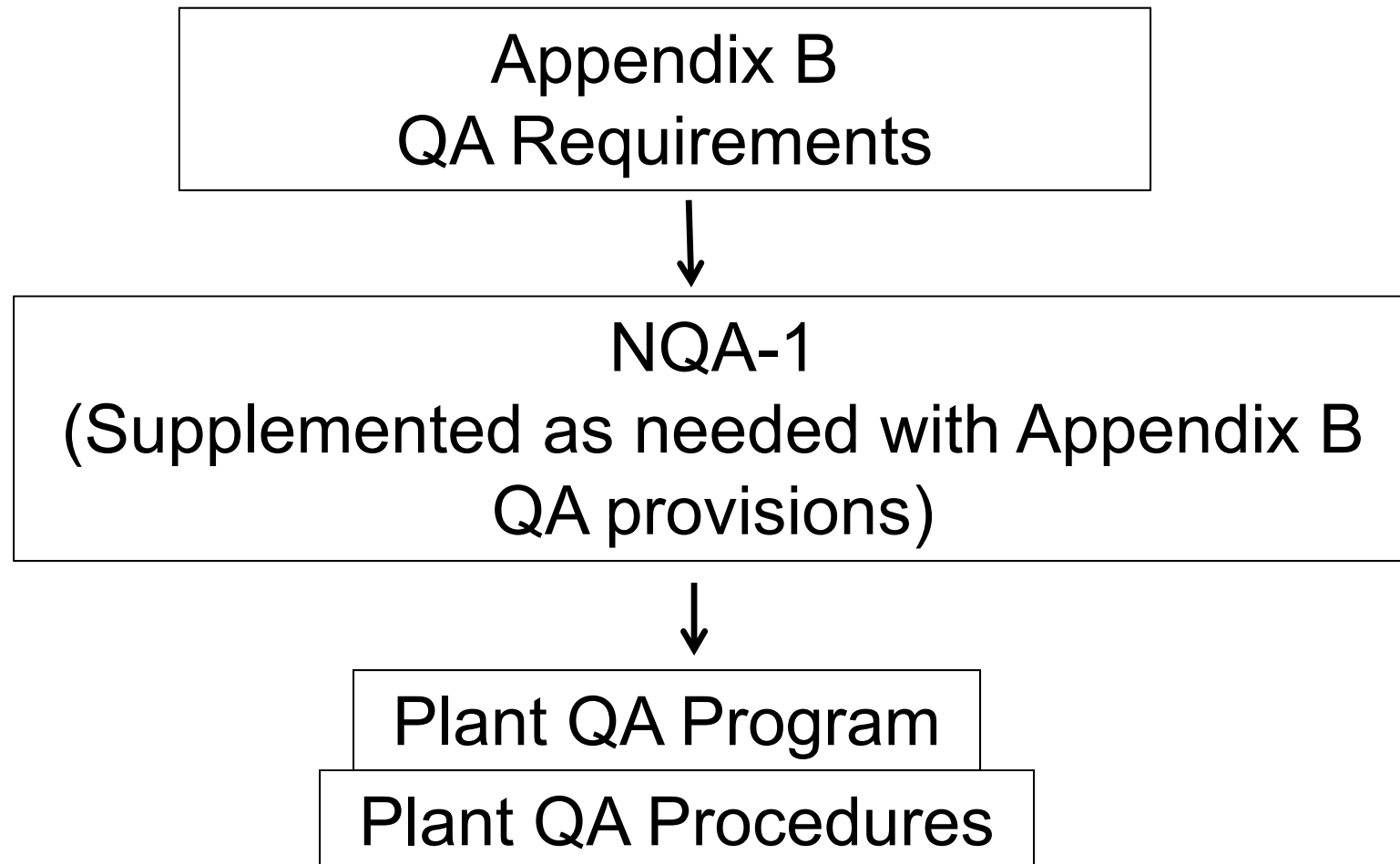
Richard McIntyre  
Division of Construction Inspection and  
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Office of New Reactors

# NQA-1 Quality Assurance



- NQA-1 was previously identified in various paragraphs of 10 CFR 50.55a, but was not approved for incorporation by reference.
- NQA-1 will be incorporated by reference into 10 CFR 50.55a for the first time.
- Specific editions and addenda include:
  - 1983 Edition through 1992 Addenda of NQA-1, “Quality Assurance Requirements for Nuclear Facilities”
  - 1994 Edition, 2008 Edition, and 2009-1a Addenda of NQA-1, “Quality Assurance Requirements for Nuclear Facility Applications”

# Relationship Between NQA-1 and 10 CFR Part 50 Appendix B



# NQA-1 Quality Assurance



## SECTION III

- Section 50.55a(b)(1)(iv) is being revised to allow applicants and licensees to use the 1983 Edition through the 1994 Edition, the 2008 Edition and the 2009-1a Addenda of NQA-1 specified in Subsection NCA-4000 or NCA-7000 of ASME Section III.
- Allow applicants and licensees to use any version of NQA-1 approved in §50.55a, provided the applicant or licensee uses its 10 CFR Part 50 Appendix B quality assurance program description (QAPD) in conjunction with the administrative, quality, and technical provisions contained in the edition or addenda of Section III being used.
- Commitments contained in the applicant's or licensee's QAPD that are either more stringent than those contained in NQA-1 or have no comparable provisions in NQA-1 or Section III, govern the applicant's or licensee's Section III activities.

# NQA-1 Quality Assurance



## SECTION XI

- Section 50.55a(b)(2)(x) is being revised to allow licensees to use the 1983 Edition through the 1994 Edition or the 2008 Edition and the 2009-1a Addenda of NQA-1 referenced in IWA-1400 or Table IWA-1600-1 of Section XI.
- Allow licensees to use any versions of NQA-1 approved in 50.55a, provided the licensee uses its 10 CFR Part 50, Appendix B QAPD in conjunction with the Section XI requirements.
- Commitments contained in the licensees QAPD that are more stringent than those contained in NQA-1 must govern Section XI activities. Further, where NQA-1 and Section XI do not address the commitments contained in the licensee's Appendix B QAPD, the commitments must be applied to Section XI activities.

# NQA-1 Quality Assurance



## OM CODE

- Section 50.55a(b)(3)(i) is being revised to allow licensees to use the 1983 Edition through the 1994 Edition, the 2008 Edition, and the 2009-1a Addenda as permitted by either ISTA 1.4 or ISTA-1500 of the OM Code
- Allow licensees to use any versions of NQA-1 approved in 50.55a, provided the licensee uses its 10 CFR Part 50 Appendix B QAPD in conjunction with the OM Code requirements.
- Commitments contained in the licensee's QAPD that are more stringent than those contained in NQA-1 must govern OM Code activities. Further, where NQA-1 and OM Code does not address the commitments contained in the licensee's Appendix B QAPD, the commitments must be applied to OM Code activities.

# ASME BPV Code Cases N-729, N-770, & N-824

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# Section XI Code Case N-729-4



- N-729-4 will be incorporated by reference into 10 CFR 50.55a and mandated
- N-729-1 was previously mandated in §50.55a(g)(6)(ii)(D)
- N-729-4 addresses conditions currently located in (D)(2) thru (D)(4)
- 50.55a(g)(6)(ii)(D)(6) will be relocated to (D)(2)
- 50.55a(g)(6)(ii)(D)(3) revised to address Bare Metal Visual frequency for heads with Alloy 600 nozzles with < 8 effective degradation years
- 50.55a(g)(6)(ii)(D)(4) revised to address Surface Exam Acceptance Criteria

# Section XI Code Case N-770-2



- N-770-2 will be incorporated by reference into 10 CFR 50.55a and mandated
- N-770-1 was previously mandated in §50.55a(g)(6)(ii)(F)
- Adopting N-770-2 will require revisions to seven of the current conditions and the addition of three new conditions

## N-770-2 Revised Conditions

- (F)(1) Modified to adopt N-770-2 and change implementation date
- (F)(2) Revised to clarify requirements for initial categorization
- (F)(3) Revised to clarify requirement to complete baseline exams
- (F)(4) Revised to ensure  $\geq 90\%$  volumetric examination coverage
- (F)(8) Revised to delete requirements for exam frequency of OWOL
- (F)(9) Revised to delete exam requirements for deferral of welds mitigated by inlay, onlay, stress improvement and OWOL
- (F)(10) Revised to allow the alternative exams of Note (b) of Fig 5(a) if Note 14(a) of Table 1 can not be performed.

# Section XI Code Case N-770-2



## N-770-2 New Conditions:

- (F)(11) Requires Appendix VIII examination of Cast Stainless Steel to meet the requirements of paragraph -2500 of N-770-2 by 2019
- (F)(12) Allows stress improvement in accordance with Appendix I if the required exam volume can be examined with Appendix VIII procedures to the maximum extent practical including 100% of the susceptible material
- (F)(13) Requires encoded ultrasonic examination of non-mitigated or cracked welds

# Section XI Code Case N-824



- N-824 will be incorporated by reference into §50.55a
- N-824 will be approved for use with conditions:
  - Must be spatially encoded
  - Shall use dual, transmit-receive, refracted longitudinal wave, multi-element phased array search unit
  - For piping  $\leq 1.6$  inch thick search unit shall have a center frequency of 500kHz – 1MHz
  - For piping  $> 1.6$  inch thick search unit shall have a center frequency of 500kHz
  - Must use search angles from 30 to 70 degrees with maximum 5 degree increments

# Proposed Conditions on the use of ASME BPV Code Section XI

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# New Section XI Conditions



- 50.55a(b)(2)(viii)(H) Concrete containment examination
- 50.55a(b)(2)(viii)(I) Concrete containment examination
- 50.55a(b)(2)(xviii)(D) NDE personnel certification
- 50.55a(b)(2)(xxx) SG pre-service examination
- 50.55a(b)(2)(xxxi) Mechanical clamping devices
- 50.55a(b)(2)(xxxii) Summary report submittal
- 50.55a(b)(2)(xxxiii) Risk-informed allowable pressure
- 50.55a(b)(2)(xxxiv) Disposition of flaws in Class 3 components

# New Section XI Conditions (cont'd)



- 50.55a(b)(2)(xxxv)  $RT_{T0}$  in applications related to the  $K_{IC}$  curve
- 50.55a(b)(2)(xxxvi) Fracture toughness of irradiated material
- 50.55a(b)(2)(xxxvii) Appendix U repair or replacement deferral†
- 50.55a(b)(2)(xxxviii) Allows use of N-824 with conditions

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# Questions & Comments



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