

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

RIN: 3150-AG61

Industry Codes and Standards; Amended Requirements

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule and withdrawal of proposed rule.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) proposes to amend its regulations to incorporate by reference a later edition and addenda of the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code* (BPV Code) and the ASME *Code for Operation and Maintenance of Nuclear Power Plants* (OM Code) to provide updated rules for construction, inservice inspection (ISI), and inservice testing (IST) of components in light-water cooled nuclear power plants. The proposed rule identifies the latest edition and addenda of the ASME BPV and OM Codes that have been approved for use by the NRC subject to certain limitations and modifications. The NRC is also withdrawing a supplemental proposed rule that would have eliminated the requirement for licensees to update their ISI and IST programs every 120 months to the latest ASME Code edition and addenda incorporated by reference in the regulations.

DATES: Comments regarding the proposed amendment must be submitted by (insert date 75 days after publication in the *Federal Register*). Comments received after this date will be considered if it is practical to do so, but the Commission is only able to ensure consideration of comments received on or before this date.

ADDRESSES: Comments may be sent to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Rulemaking and Adjudications Staff. Comments may be hand-delivered to 11555 Rockville Pike, Rockville, Maryland, 20852, between 7:30 a.m. and 4:15 p.m. on Federal workdays.

You may also provide comments via the NRC's interactive rulemaking Website at <http://ruleforum.llnl.gov>. This site provides the ability to upload comments as files (in any format), provided that your Web browser supports that function. For information about the interactive rulemaking Website, contact Ms. Carol Gallagher at, (301) 415-5905, or via e-mail at: cag@nrc.gov. Certain documents related to this rulemaking, including comments received, may be examined at the NRC's Public Document Room (PDR), located at One White Flint North, 11555 Rockville Pike, Rockville, Maryland.

The NRC maintains an Agencywide Documents Access and Management System (ADAMS), which provides text and image files of NRC's public documents. The documents may be accessed through the NRC's Public Electronic Reading Room on the Internet at <http://www.nrc.gov/NRC/ADAMS/index.html>. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC PDR Reference staff at 1-800-397-4209, (301) 415-4737, or by email to pdr@nrc.gov. The availability of

documents associated with this rulemaking is further discussed in Section 6 below, under SUPPLEMENTARY INFORMATION.

FOR FURTHER INFORMATION CONTACT: Stephen Tingen, Division of Engineering, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001. Alternatively, you may contact Mr. Tingen at (301) 415-1280, or via e-mail at: sgt@nrc.gov.

SUPPLEMENTARY INFORMATION:

1. Background
2. Summary of Proposed Revisions to 10 CFR 50.55a
 - 2.1 Section III
 - 2.2 Section XI
 - 2.2.1 Owner-Defined Requirements for Class CC and Class MC Components
 - 2.2.1.1 Concrete Containment Visual Examination Qualification
 - 2.2.1.2 Visual Examination Qualification Requirements for Containment Surfaces
 - 2.2.1.3 General and Detailed Examinations
 - 2.2.1.4 Bolting Acceptance Standard
 - 2.2.2 Examination of Containment Bolted Connections
 - 2.2.3 Acceptance Standard for Surfaces Requiring Augmented Ultrasonic Examinations
 - 2.2.4 Containment Penetration Piping
 - 2.2.5 Certification of Nondestructive Examination Personnel
 - 2.2.6 Substitution of Alternative Methods

- 2.2.7 System Leakage Tests
- 2.2.8 Table IWB-2500-1 Examination Requirements
- 2.2.9 Supplemental Annual Training Requirements for Ultrasonic Examiners
- 2.2.10 Underwater Welding
- 2.3 Appendix VIII to Section XI
 - 2.3.1 Examination Coverage for Dissimilar Metal Pipe Welds
 - 2.3.2 Reactor Vessel Single Side Examinations
 - 2.3.3 Qualification Test Samples
 - 2.3.4 Implementation of Appendix VIII to Section XI
- 2.4 ASME OM Code
- 3. Section-by-Section Analysis of Substantive Changes
- 4. Withdrawal of a Proposed Rule to Eliminate 120-Month Update
- 5. Draft Generic Aging Lessons Learned Report
- 6. Availability of Documents
- 7. Plain Language
- 8. Voluntary Consensus Standards
- 9. Finding of No Significant Environmental Impact: Availability
- 10. Paperwork Reduction Act Statement
- 11. Regulatory Analysis
- 12. Regulatory Flexibility Certification
- 13. Backfit Analysis

1. Background

The regulations in 10 CFR 50.55a require that nuclear power plant licensees--

(1) Construct Class 1, 2, and 3 components in accordance with the provisions provided in Section III, Division 1, "Requirements for Construction of Nuclear Power Plant Components," of the ASME BPV Code;

(2) Inspect Class 1, 2, and 3, metal containment (MC), and concrete containment (CC) components in accordance with the provisions provided in Section XI, Division 1, "Requirements for Inservice Inspection of Nuclear Power Plant Components," of the ASME BPV Code; and

(3) Test Class 1, 2, and 3 pumps and valves in accordance with the provisions provided in the ASME OM Code.

The regulations in 10 CFR 50.55a also require that licensees revise their ISI and IST programs every 120 months to the edition and addenda of the ASME Code incorporated by reference into 10 CFR 50.55a that is in effect 12 months prior to the start of the new 120-month interval; permit licensees to voluntarily update their construction, ISI, and IST programs at any time to the most recent edition and addenda of the ASME BPV and/or OM Codes incorporated by reference in 10 CFR 50.55a with the approval of the NRC; and specify the edition and addenda of Section III of the ASME BPV Code that must be applied to the construction of reactor coolant pressure boundary components and Quality Group B and C components.

The NRC proposes to amend its regulations in 10 CFR 50.55a to incorporate by reference the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Division 1 rules of Section III of the ASME BPV Code; the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Division 1 rules of Section XI of the ASME BPV Code; and the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of the ASME OM Code for construction, ISI, and IST of components in nuclear power plants. The NRC has reviewed the 1997 Addenda, 1998 Edition, the 1999 Addenda, and the 2000 Addenda of the ASME BPV Code, Sections III and XI, and the ASME OM Code, and concluded that--

- (1) Section III of the ASME BPV Code is acceptable for use with no new proposed limitations or modifications;
- (2) Section XI of the ASME BPV Code is acceptable for use subject to proposed limitations and modifications; and
- (3) The ASME OM Code is acceptable for use subject to one proposed modification.

The NRC-proposed limitations and modifications address enhancements to the provisions in the ASME BPV and OM Codes. The ASME OM Code does not issue an addenda in the same year that an edition is issued. Therefore, there is not a 1998 Addenda to the ASME OM Code. The ASME BPV Code also did not issue an addenda in the same year that 1998 Edition was issued. Therefore, there is not a 1998 Addenda to Section III and Section XI of the ASME BPV Code.

The NRC also proposes revisions to the regulations in 10 CFR 50.55a that licensees use to modify the implementation of Appendix VIII, "Performance Demonstration for Ultrasonic

Examinations Systems,” to Section XI of the ASME BPV Code. The proposed amendment would clarify existing ultrasonic examination qualification requirements in 10 CFR 50.55a. The proposed amendment would also add new requirements to clarify the coordination of Appendix VIII with other parts of Section XI.

On April 27, 1999 (64 FR 22580), the NRC proposed to eliminate the requirement for licensees to update their ISI and IST programs beyond a baseline edition and addenda of the ASME BPV Code. In a staff requirements memorandum (SRM) dated April 13, 2000, the Commission disapproved the elimination of the 120-month update requirement. Therefore, the Commission is withdrawing the April 27, 1999 proposed rule (64 FR 22580), as discussed in Section 4 below.

2. Summary of Proposed Revisions to 10 CFR 50.55a

2.1 Section III

The proposed amendment would revise 10 CFR 50.55a(b)(1) to incorporate by reference the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Division 1 of Section III of the ASME BPV Code. The proposed amendment would extend the requirements in 10 CFR 50.55a(b)(1)(ii), 50.55a(b)(1)(iii), and 50.55a(b)(1)(v) to the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Section III of the ASME BPV Code. The remaining limitations and modifications would remain the same. No new limitations or modifications would be imposed on the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda.

2.2 Section XI

The proposed amendment would revise 10 CFR 50.55a(b)(2), to incorporate by reference the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Division 1 of Section XI of the ASME BPV Code. The proposed amendment would extend the requirements in 10 CFR 50.55a(b)(2)(viii) and 50.55a(b)(2)(ix) to the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Section XI of the ASME BPV Code. The proposed amendment would extend the requirements in 50.55a(b)(2)(xi), 50.55a(b)(2)(xv), and 50.55a(b)(2)(xvii) to the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Section XI of the ASME BPV Code.

The proposed amendment would delete 50.55a(g)(6)(ii)(B)(1) through (4) because the implementation dates have expired and all licensees have completed their first containment inservice inspection requirements or have been approved by an exemption for a delay. As licensees have begun implementing their containment ISI programs, the NRC has received requests to clarify the start of the first 120-month interval. Therefore, the new proposed 10 CFR 50.55a(g)(6)(ii)(B)(1) would clarify that the start date of the first 120-month interval for the ISI of Class MC and Class CC components must coincide with the start of the first containment inspection. The requirement in 10 CFR 50.55a(g)(6)(ii)(B)(5) would be redesignated as 50.55a(g)(6)(ii)(B)(2). New limitations and modifications proposed are as follows:

2.2.1 Owner-Defined Requirements for Class CC and Class MC Components

The proposed 10 CFR 50.55a(b)(2)(viii)(F), 50.55a(b)(2)(ix)(F), 50.55a(b)(2)(ix)(G), and 50.55a(b)(2)(ix)(H), address "owner-defined" requirements. Revisions to the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Section XI would permit each licensee to define personnel qualification and visual examination requirements. Each licensee would not only be responsible for developing the procedures and requirements for the instruction, training, and approval of examination personnel, but they would also be responsible for developing procedures and requirements for performing examinations. In addition, each licensee would be permitted to define the acceptance criteria for these requirements; i.e., by evaluating the results of the examination and determining whether the results are acceptable. ASME Code requirements associated with the use of these "owner-defined" requirements provide little control. A licensee could re-define these requirements at any time. Because a set of "minimum requirements" has not been defined, it cannot be determined whether the new requirements would maintain safety and ensure the protection of public health and safety. Versions of the ASME Code prior to 1997 contained requirements that are acceptable to the NRC. Therefore, the proposed modifications and limitations provide specific requirements that the licensee shall meet in lieu of establishing its own requirements.

However, in some instances the use of "owner-defined" provisions are acceptable. Subparagraph IWE-2310(e) of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda provides specific criteria for coated and non-coated areas of containment surfaces subject to detailed visual inspection. It states that painted or coated areas shall be examined for evidence of flaking, blistering, peeling, discoloration, and other signs of distress. For non-coated areas, it

states that those areas shall be examined for evidence of cracking, discoloration, wear, pitting, excessive corrosion, gouges, surface discontinuities, dents, and other signs of surface irregularities. Therefore, the provision for the owner to define visual examination requirements in IWE-2310(a) of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda, as supplemented by the requirements in IWE-2310(e), is acceptable.

Paragraphs IWE-3510 and IWE-3511, of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda, state that the owner shall define the acceptance criteria to be used when conducting a visual examination of a metal containment surface. Modifications are not imposed on these “owner-defined” provisions because other requirements exist in Subsection IWE of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda that provide sufficient requirements to identify and correct degradations in metal containment surfaces that would be identified during visual examinations. For example, paragraph IWE-3510.2, states, “Areas that are suspect shall be accepted by engineering evaluation or corrected by repair/replacement activities in accordance with IWE-3122. Supplemental examinations in accordance with IWE-3200 shall be performed when specified as a result of the engineering evaluation.” Paragraph IWE-3122 provides specific acceptance criteria for evaluating the acceptability of metal containment surface visual examination results. The “owner-defined” acceptance criteria for visual examination of metal containment surfaces is a screening for determining when areas of degradation must be further evaluated. Therefore, the “owner-defined” acceptance criteria for visual examination of metal containment surfaces in IWE-3510 and IWE-3511 are acceptable.

Paragraph IWL-2310(e) of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda, states that the owner shall define the requirements to be used for conducting visual

examinations of tendon anchorage hardware, wires, or strands. A modification is not imposed on this “owner-defined” provision because other requirements in Subsection IWL of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda provide sufficient requirements to be used for conducting visual examinations of tendon anchorage hardware, wires, or strands. For example, the provisions in Table IWL-2500-1, Examination Category L-B, provide specific requirements to be used for conducting visual examinations of tendon anchorage hardware, wires, or strands. Therefore, licensees are required to use the requirements in Table IWL-2500-1, Examination Category L-B, to conduct visual examinations of tendon anchorage hardware, wires, and strands.

2.2.1.1 Concrete Containment Visual Examination Qualification

The proposed modification in 10 CFR 50.55a(b)(2)(viii)(F) would require that personnel examining containment concrete surfaces and tendon anchorage hardware, wires, or strands be qualified in accordance with the procedures of IWA-2300 of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda in lieu of “owner-defined” personnel qualification provisions in IWL-2310(d) of the 1998 Edition, and the 1999 Addenda and the 2000 Addenda. Prior to the 1997 Addenda, IWL-2310(c) required that visual examination personnel be qualified in accordance with specific requirements in IWA-2300. The qualification requirements were revised in IWL-2310(d), 1997 Addenda, to allow the owner to define the qualification requirements for personnel who perform visual examinations of concrete and tendon anchorage hardware, wires, or strands. However, the new Code provision does not provide any criteria that the licensee must use when developing qualification requirements. Therefore, the NRC is proposing that licensees continue to use the provisions in IWA-2300 to qualify personnel who

perform visual inspections of containment concrete surfaces and tendon anchorage hardware, wires, or strands.

2.2.1.2 Visual Examination Qualification Requirements for Containment Surfaces

The proposed modification in 10 CFR 50.55a(b)(2)(ix)(F) would require that personnel who conduct visual examinations of containment surfaces be qualified in accordance with IWA-2300 of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda in lieu of “owner-defined” qualification provisions in IWE-2330(a) of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda. Prior to the 1998 Edition, the NRC approved provisions in IWA-2300 were used to define the qualification requirements for personnel who conduct visual examinations of containment surfaces. Paragraph IWE-2330(a) was added in the 1998 Edition and states that the licensee must define the qualification requirements for personnel who conduct visual examinations of containment surfaces. However, the revised Code provision does not provide any criteria that the licensee must use when developing qualification requirements. Therefore, the NRC is proposing that licensees continue to use the provisions in IWA-2300 to qualify personnel who conduct visual examinations of containment surfaces.

2.2.1.3 General and Detailed Visual Examinations

The proposed modification in 10 CFR 50.55a(b)(2)(ix)(G) would require that the general and detailed visual examinations required by IWE-2310(b) and IWE-2310(c) of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda meet the VT-3 and VT-1 examination provisions in IWA-2210 of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda, in lieu

of the “owner-defined” general and detailed visual examination provisions in IWE-2310(a) of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda. Paragraph IWE-2310(a), was revised in the 1998 Edition to require that the owner define general and detailed visual examinations. Therefore, the general and detailed visual examinations in IWE-2310(b) and IWE-2310(c) are now required by the Code to be defined by the owner. However, the revised Code provision does not provide any criteria that the licensee must use to define general and detailed visual examination requirements. Prior to the 1998 Edition, the NRC-approved provisions in IWA-2210 were used to defined the general (VT-3) and detailed (VT-1) visual examinations required by Subsection IWE. Therefore, the NRC is proposing that licensees continue to use the VT-3 and VT-1 provisions of IWA-2210 to define the general and detailed visual examinations required by IWE-2310(b) and IWE-2310(c), and continue to extend Table IWA-2210-1 maximum direct examination distance and decrease Table IWA-2210-1 minimum illumination requirements as currently stated in 10 CFR 50.55(b)(2)(ix)(B).

2.2.1.4 Bolting Acceptance Standard

The proposed modification in 10 CFR 50.55a(b)(2)(ix)(H) would require licensees to use the acceptance standard of IWC-3513 of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda to evaluate flaws in pressure-retaining bolting that is greater than or equal to 51 millimeters [2.0 inches] in diameter identified during the examination of containment surfaces in lieu of the “owner-defined” acceptance standard of IWE-3510.1 of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda. Prior to the 1998 Edition, IWE-3515.1 specified an NRC-approved acceptance standard for evaluating bolting flaws. However, the bolting acceptance standard in IWE-3515.1 was deleted in the 1998 Edition and the “owner-defined”

acceptance standard in IWE-3510.1 was added. The revised Code provision does not provide any criteria that the licensee must use when developing an acceptance standard for evaluating bolting flaws. The acceptance standard in IWC-3513 has been approved by the NRC for evaluating bolting flaws, and the NRC is proposing that the acceptance standard in IWC-3513 be used to evaluate flaws in containment pressure-retaining bolting that is greater than or equal to 51 millimeters [2.0 inches] in diameter.

2.2.2 Examination of Containment Bolted Connections

The proposed modification in 10 CFR 50.55a(b)(2)(ix)(I)(1) through (4) would require licensees to supplement the examination requirements for containment bolted connections in Table IWE-2500-1, Examination Category E-A, Items E1.10 and E1.11, of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda with additional examination requirements. Prior to the 1998 Edition, the provisions in Table IWE-2500-1 required a VT-1 visual examination on 100 percent of the pressure-retaining bolting, as well as a torque test of each bolted connection. The provisions in the 1998 Edition, the 1999 Addenda, and the 2000 Addenda relax these requirements and state that a general visual examination of 100 percent of bolted surfaces is to be conducted during each inspection interval, without requiring the torque test of bolts. These provisions will not identify flaws or degradation in inaccessible areas, nor will the acceptance criteria for general visual examinations provide sufficient guidance for the acceptance of flaws. Therefore, the proposed modification in 10 CFR 50.55a(b)(2)(ix)(I)(1) through (4) would require that licensees supplement the examination requirements for containment bolted connections in Table IWE-2500-1, Examination Category E-A, Items E1.10 and E1.11, with the following--

- The general visual examination must include the examination of bolted connections that are disassembled at the time of a scheduled inspection.
- A detailed visual examination must be performed for areas where flaws or degradation are indicated.
- Damaged bolted connections must be disassembled and a detailed visual examination of the bolted connection components must be performed.
- If a bolted connection is disassembled at times other than a periodic (or planned) inspection and is not examined by a qualified visual examiner before reassembly, written maintenance procedures must be followed to ensure that the integrity of the reassembled bolted connection is maintained. The written procedures must include acceptance criteria for the continued use of all parts of the connection including bolts, studs, nuts, bushings, washers, threads in base material, and flange ligaments between fastener holes.

2.2.3 Acceptance Standard for Surfaces Requiring Augmented Ultrasonic Examinations

The proposed modification in 10 CFR 50.55a(b)(2)(ix)(J) would require that the ultrasonic (UT) examination acceptance standard specified in IWE-3511.3 of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda for Class MC pressure-retaining components also apply to metallic liners of Class CC pressure-retaining components. The 1995 Edition applied the same UT acceptance standard to both Class MC and metallic liners of Class CC pressure-retaining components. The acceptance standard was revised in the 1995 Addenda to apply only to Class MC pressure-retaining components. A UT acceptance standard is needed

for metallic liners of Class CC pressure-retaining components to evaluate conditions that are identified during an examination that may be unacceptable. Therefore, the NRC proposes to continue to use the UT acceptance standard in IWE-3511.3 for metallic liners of Class CC pressure-retaining components.

2.2.4 Containment Penetration Piping

The proposed limitation in 10 CFR 50.55a(b)(2)(xii)(A) would not allow welds in high-energy fluid system piping that are located inside a containment penetration assembly or encapsulated by a guard pipe to be exempted from examination provisions of Subsection IWC as permitted by IWC-1223 of the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda. The provisions of the Code that exempted containment penetration piping welds located inside a containment penetration assembly or encapsulated by a guard pipe from Subsection IWC examination requirements were incorporated into IWC-1223 in the 1994 Addenda. These provisions conflict with the “break exclusion zone” design and examination criteria developed by the NRC that are utilized for most containment penetration piping. Branch Technical Position EMEB 3-1, “Postulated Rupture Locations in Fluid System Piping Inside and Outside Containment,” an attachment to NRC Standard Review Plan (SRP) Section 3.6.2, “Determination of Rupture Locations and Dynamic Effects Associated with Postulated Rupture of Piping” (NUREG-0800), allows that breaks and cracks in high-energy fluid piping in containment penetration areas need not be postulated provided that where guard pipes are used, the enclosed portion of fluid system piping is seamless construction and without circumferential welds unless specific access provisions are made to permit inservice volumetric examination of the longitudinal and circumferential welds; and a 100 percent volumetric

inservice examination of all pipe welds is conducted during each inspection interval as defined in IWA-2400 of Section XI of the ASME BPV Code.

In designs where these welds are inaccessible, relief from impractical Code requirements will continue to be granted by the NRC when appropriate bases are provided by the licensee under 10 CFR 50.55a(g)(5). The proposed limitation does not apply to moderate-energy fluid system piping. Licensees would be permitted to exempt welds in moderate-energy system piping that are located inside a containment penetration assembly or encapsulated by a guard pipe from examination in accordance with IWC-1223. The definitions of high- and moderate-energy fluid systems are contained in SRP Section 3.6.1, "Plant Design for Protection Against Postulated Piping Failures in Fluid Systems Outside Containment" (NUREG-0800).

The proposed limitation in 10 CFR 50.55a(b)(2)(xii)(B) would not allow piping that penetrates the containment that is connected to piping outside the scope of Section XI to be exempted from the pressure testing provisions of Subsection IWA as permitted by IWA-5110(c) of the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda. Paragraph IWA-5110(c) of the 1997 Addenda incorporated the provisions of Code Case N-522, "Pressure Testing of Containment Penetration Piping," to allow piping that penetrates containment to be exempted from periodic system pressure testing when the piping and containment isolation valves perform a containment function, and the balance of the piping is not in the scope of Section XI. As discussed in the preceding paragraph, volumetric examinations of welds are no longer required for moderate-energy containment penetration piping. Therefore, pressure testing is the only practicable remaining ISI method capable of detecting through-wall leakage in the piping. Moderate-energy containment penetration piping must be included in ISI

programs that are capable of identifying any through-wall leakage. The NRC notes that containment penetration piping is required to be tested in accordance with Appendix J to 10 CFR Part 50, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors." However, the Appendix J test requirements do not contain provisions for the detection and location of through-wall leakage in containment penetration piping.

2.2.5 Certification of Nondestructive Examination (NDE) Personnel

The proposed modification in 10 CFR 50.55a(b)(2)(xviii)(A) would require Level I and II NDE personnel and personnel qualified under the Nondestructive Testing Control Certifications Program to be recertified on a 3-year interval in lieu of the 5-year interval specified in IWA-2314 of the 1997 Addenda and the 1998 Edition, and IWA-2314(a) and IWA-2314(b) of the 1999 Addenda and the 2000 Addenda. Prior to 1997, Level I and II NDE personnel and personnel qualified under the Nondestructive Testing Control Certifications Program were recertified on a 3-year interval. Paragraph IWA-2314 of the 1997 Addenda incorporated the provisions of Code Case N-574, "NDE Personnel Recertification Frequency," which increased the recertification interval from 3 years to 5 years. The proficiency of examination personnel decreases over time, and available data do not support recertification examinations at a frequency of every 5 years.

The proposed modification in 10 CFR 50.55a(b)(2)(xviii)(B) would supplement the alternative qualification provisions for VT-2 visual examination personnel in IWA-2316 of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda. Paragraph IWA-2316 was added to the 1998 Edition of Section XI and incorporates the provisions of Code Case N-546, "Alternative

Requirements for Qualification of VT-2 Examination Personnel, Section XI, Division 1.”

Paragraphs IWA-2310 through IWA-2314 also provide provisions that can be used to qualify VT-2 visual examination personnel. Prior to 1998, the NRC-approved provisions in IWA-2310 through IWA-2314 were used to qualify VT-2 visual examination personnel. These provisions require that VT-2 visual examination personnel pass an initial qualification examination and periodic recertification examinations. The alternative qualification provisions for VT-2 visual examination personnel in IWA-2316 do not address initial qualification or periodic recertification examinations. Therefore, the NRC is proposing that when qualifying VT-2 visual examination personnel in accordance with IWA-2316, the proficiency of the training must be demonstrated by administering an initial qualification examination and administering recertification examinations on a 3-year interval. The implementation of IWA-2316 is applicable only to the performance of VT-2 visual examinations.

The proposed modification in 10 CFR 50.55a(b)(2)(xviii)(C) would supplement the alternative qualification provisions for VT-3 visual examination personnel in IWA-2317 of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda. Paragraph IWA-2317 was added to the 1998 Edition of Section XI and applies the provisions of Code Case N-546 to the qualification of VT-3 visual examination personnel. Paragraphs IWA-2310 through IWA-2314 also provide provisions that can be used to qualify VT-3 visual examination personnel. Prior to 1998, the NRC-approved provisions in IWA-2310 through IWA-2314 were used to qualify VT-3 visual examination personnel. These provisions require that VT-3 visual examination personnel pass an initial qualification examination and periodic recertification examinations. The alternative qualification provisions for VT-3 visual examination personnel in IWA-2317 do not address initial qualification or periodic recertification examinations. Therefore, the NRC is

proposing that when qualifying VT-3 visual examination personnel in accordance with IWA-2317, the proficiency of the training must be demonstrated by administering an initial qualification examination and administering recertification examinations on a 3-year interval. The implementation of IWA-2317 is applicable only to the performance of VT-3 visual examinations.

2.2.6 Substitution of Alternative Methods

The proposed limitation in 10 CFR 50.55a(b)(xix) would prohibit the use of the provision in IWA-2240 (1998 Edition, 1999 Addenda, and 2000 Addenda) and IWA-4520(c) (1997 Addenda, 1998 Edition, 1999 Addenda, and 2000 Addenda), which allows alternative examination methods, a combination of methods, or newly developed techniques to be substituted for the methods specified in the Construction Code, provided the Authorized Nuclear Inspector (ANI) is satisfied that the results are demonstrated to be equivalent or superior to those in the Construction Code. Paragraphs IWA-2240, 1998 Edition, and IWA-4520(c), 1997 Addenda, incorporate the provisions of Code Case N-587, "Alternative NDE Requirements for Repair/Replacement Activities." The NDE requirements of the Construction Code are different from those of Section XI because the objectives of the examinations differ. The NDE methods and the qualification and examination criteria of the Construction Code serve to identify fabrication- and construction-related defects in components. The NDE methods and the qualification and examination criteria specified in Section XI serve to identify service-related and age-related degradation in components after having been placed in operation. Methods, techniques, and criteria associated with construction and fabrication are not necessarily interchangeable or compatible with those of inservice inspection. Furthermore, there are

examination coverage, volume, flaw acceptance, and qualification requirements related to these respective methods that are outside the scope of an ANI's responsibility. By introducing the Construction Code to paragraphs IWA-2240 and IWA-4520(c), the requirements of Section XI and the Construction Code become intertwined and the objectives of the examinations as well as the associated methods, qualifications and examination criteria become blurred.

Construction Code examinations validate the integrity of the entire weld and the integrity of the fabrication material with full-volume examinations, whereas Section XI examinations validate the integrity of welds based on partial volume examinations and different criteria. These differences are not mentioned in IWA-2240 or IWA-4520(c). As a result, use of IWA-2240 and IWA-4520(c) could allow the improper application of a Section XI examination in lieu of a Construction Code examination, resulting in a component having welds whose integrity was never verified by a full volume examination. The NRC finds that IWA-2240 and IWA-4520(c) as applied to the Construction Code, are unacceptably broad and could allow unacceptable welds and components to be installed and placed in operation. Therefore, the substitution of alternative examination methods, a combination of methods, or newly developed techniques permitted by IWA-2240 and IWA-4520(c) for methods specified in the Construction Code are inappropriate.

2.2.7 System Leakage Tests

The proposed limitation in 10 CFR 50.55a(b)(2)(xx) would require that the pressure and temperature hold time requirements of IWA-5213(a) of the 1995 Edition be applied in lieu of the revised provisions of IWA-5213(a) of the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda when performing system leakage tests. The 1995 Addenda

incorporates the provisions of Code Case N-498-2, "Alternative Requirements for System Leakage Testing for Class 1, 2, and 3 Systems," which deleted the provisions requiring system pressure and temperature conditions to be maintained for 4 hours on insulated systems or components, or 10 minutes on noninsulated systems or components, prior to conducting system leakage tests. The 4-hour and 10-minute hold times are needed because--

(1) The capability to detect and locate a small leak is directly proportional to the hold times of a pressurized system, particularly if the system is insulated;

(2) System leakage tests, if performed without hold times, may be insensitive to small leaks because long hold times are necessary for them to become visible; and

(3) Small leaks might not be detected by any other means (such as system walkdowns, installed leak detection systems, or leakage monitoring programs).

2.2.8 Table IWB-2500-1 Examination Requirements

The proposed limitation in 10 CFR 50.55a(b)(2)(xxi)(A) would require licensees to use the provisions of Table IWB-2500-1, Examination Category B-D, Items B3.40 and B3.60 (Inspection Program A) and Items B3.120 and B3.140 (Inspection Program B) of the 1997 Addenda and 1998 Edition when using the 1999 Addenda and the 2000 Addenda. The 1999 Addenda incorporates the provisions of Code Case N-619, "Alternative Requirements for Nozzle Inner Radius Inspections for Class 1 Pressurizer and Steam Generator Nozzles." Code Case N-619 eliminated the pressurizer and steam generator nozzle inside radius inspections in Table IWB-2500-1, Examination Category B-D, Items B3.40 and B3.60 (Inspection Program A) and Items B3.120 and B3.140 (Inspection Program B). Given the inservice examination data available for these components, the NRC finds there is inadequate

safety basis to support the elimination of inservice examination of steam generator and pressurizer nozzle inner radii. Furthermore, the ASME Code is considering a revision to Code Case N-619 that would reinstate some alternate examination requirements. Therefore, the NRC is proposing that pressurizer and steam generator nozzle inside radius inspections be retained in ISI programs.

The proposed limitation in 10 CFR 50.55a(b)(2)(xxi)(B) would require licensees to apply the provisions of Table IWB-2500-1, Examination Category B-G-2, Item B7.80, of the 1995 Edition when using the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda. The 1995 Addenda incorporates the provisions of Code Case N-547, "Alternative Examination Requirements for Pressure Retaining Bolting of Control Rod Drive Housings." Code Case N-547 deletes the examination of control rod drive (CRD) bolting whenever the CRD housing is disassembled. The examination of CRD bolting is appropriate prior to reinstallation because bending and galling of threads, and other damage to bolting, can occur when performing maintenance activities that require the removal and reinstallation of bolting. Inservice examination of bolting to be reused is appropriate in order to verify that service-related degradation of components is not occurring, and that the bolting was not damaged during the maintenance activity. Therefore, the NRC is proposing that the examination of CRD bolting be retained in ISI programs.

The proposed limitation in 10 CFR 50.55a(b)(2)(xxi)(C) would require licensees to use the provisions of Table IWB-2500-1, Examination Category B-K, Item B10.10, of the 1995 Addenda when using the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda. The 1997 Addenda incorporates the provisions of Code Case N-323-1,

“Alternative Examination for Welded Attachments to Pressure Vessels.” Code Case N-323-1 permits performance of a single-side surface examination in lieu of a surface examination from both sides of the weld, whereas the 1995 Addenda requires the performance of a single-side volumetric examination of the attachment weld if surface examination from both sides of the weld is not performed. The provisions of Code Case N-323-1 do not provide a level of quality and safety equivalent to that provided in the 1995 Addenda. A single-side surface examination is not sufficient because it would not identify flaws that would be identified by a single-side volumetric examination or a surface examination from both sides of the weld.

2.2.9 Supplemental Annual Training Requirements for Ultrasonic Examiners

The proposed limitation in 10 CFR 50.55a(b)(2)(xxii) would require licensees to apply the UT examiner supplemental annual training provisions of Appendix VII, paragraph VII-4240, of the 1998 Edition when using the 1999 Addenda and the 2000 Addenda. The 1999 Addenda incorporates the provision of Code Case N-583, “Annual Training Alternative, Section XI, Division 1.” Code Case N-583 requires at least eight hours per year of practice of UT examination techniques by examining or by analyzing prerecorded data from material or welds containing flaws similar to those that may be encountered during inservice examination. However, the code case only provides training for techniques associated with data recording capabilities and does not provide for training using manual techniques. Hence the training alternative of Code Case N-583 is not sufficient because it is less complete than that provided by Appendix VII, paragraph VII-4240, of the 1998 Edition.

2.2.10 Underwater Welding

The proposed modification in 10 CFR 50.55a(b)(2)(xxiii) would require licensees to demonstrate the acceptability of the underwater welding method through the use of a mockup using material with similar neutron fluence levels, when welding on high neutron fluence Class 1 material underwater in accordance with IWA-4660, of the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda. The 1997 Addenda incorporates the provisions of Code Case N-516-1, "Underwater Welding, Section XI, Division 1," which provides for alternative welding methods to those required by IWA-4000. The provisions of the code case are acceptable. However, due to susceptibility of cracking in high neutron irradiated steel material, the acceptability of the underwater welding method on high neutron fluence Class 1 material must be demonstrated on a mockup, using material with similar neutron fluence levels to verify that adequate crack prevention measures were used. Reactor vessel and internals are typically high neutron fluence Class 1 material. Use of a mockup is necessary because weld repairs using conventional welding techniques on in-vessel components exposed to high neutron fluences may be unsuccessful due to helium induced cracking and radiation damage, unless special welding techniques are used.

2.3 Appendix VIII to Section XI

The proposed rule would extend the provisions in 10 CFR 50.55a(b)(2)(xv) to the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Appendix VIII of Section XI of the ASME BPV Code. The proposed rule would also revise 10 CFR 50.55a(b)(2)(xv)(G)(4) and 50.55a(b)(2)(xv)(K)(1)(i), as discussed in Sections 2.3.2 and

2.3.3, to update and clarify existing Appendix VIII UT examination qualification requirements. The proposed rule would also revise 10 CFR 50.55a(b)(2)(xv)(A), (A)(1), and (A)(2), and 10 CFR 50.55a(g)(6)(ii)(C)(1), and add 10 CFR 50.55a(b)(2)(xv)(M) and 50.55a(g)(6)(ii)(C)(2), as discussed in Sections 2.3.1 and 2.3.4, to clarify the coordination of Appendix VIII with other parts of Section XI.

2.3.1 Examination Coverage for Dissimilar Metal Pipe Welds

The proposed revision to 10 CFR 50.55a(b)(2)(xv)(A), (A)(1), and (A)(2), would update the UT examination coverage criteria to include examination coverage criteria for dissimilar metal piping welds when using personnel, procedures and equipment that are qualified in accordance with Supplement 10, “Qualification Requirements for Dissimilar Metal Piping Welds,” of Appendix VIII to Section XI. Currently, 10 CFR 50.55a(b)(2)(xv) provides the examination coverage requirements for those licensees who voluntarily choose to implement the Electric Power Research Institute (EPRI) Performance Demonstration Initiative (PDI) methodology to meet the qualification requirements of Appendix VIII to Section XI. However, 10 CFR 50.55a(b)(2)(xv) does not address the examination coverage requirements for dissimilar metal piping welds. Although examination coverage requirements for dissimilar metal piping welds are addressed in the 1989 Edition, and earlier editions and addenda of Section XI, these requirements are not addressed in later editions and addenda of Section XI. Therefore, the proposed revision to 10 CFR 50.55a(b)(2)(xv)(A), (A)(1) and (A)(2) provides examination coverage requirements for dissimilar metal piping welds that are consistent with the examination coverage requirements in the 1989 Edition and earlier editions and addenda of Section XI.

2.3.2 Reactor Vessel Single Side Examinations

The provisions in 10 CFR 50.55a(b)(2)(xv)(G)(4), which specify the same examination criteria as those contained in 10 CFR 50.55a(b)(2)(xv)(G)(3), are redundant and unnecessary and, therefore, would be deleted.

2.3.3 Qualification Test Samples

The proposed revision to 10 CFR 50.55a(b)(2)(xv)(K)(1)(i) would resolve a discrepancy between 10 CFR 50.55a(b)(2)(xv)(K)(1)(i) and 50.55a(b)(2)(xv)(K)(4). Currently, 10 CFR 50.55a(b)(2)(xv)(K)(1)(i) states that flaws that are perpendicular to the weld are not required to be included in the qualification test sample. This requirement conflicts with a provision in 10 CFR 50.55a(b)(2)(xv)(K)(4), which states that test samples must contain flaws that are perpendicular to the weld in the inner 15 percent of the weld, but that these same flaws are not required to be located in the outer 85 percent of the weld. The proposed revision to 10 CFR 50.55a(b)(2)(xv)(K)(1)(i) would clarify that flaws perpendicular to the weld located in the outer 85 percent of the weld are not required to be included in the qualification test sample.

2.3.4 Implementation of Appendix VIII to Section XI

The proposed 10 CFR 50.55a(b)(2)(xv)(M) would clarify that only the provisions in Supplement 12 to Appendix VIII that are related to the coordinated implementation of Supplement 3 to Supplement 2 performance demonstrations are required to be implemented. Supplement 12 provides provisions for coordinated implementation of selected aspects of

Supplements 2, 3, 10, and 11; however, Supplement 12 does not provide provisions for the coordinated implementation of Supplement 2 or Supplement 11 performance demonstrations to Supplements 3 and 10; and does not contain guidance for implementing single-side examinations as part of the coordinating process.

The proposed revision to 10 CFR 50.55a(g)(6)(ii)(C)(1) would clarify that Appendix VIII to Section XI, 1995 Edition with the 1996 Addenda, as well as its supplements, would be required. Although the final rule that implemented Appendix VIII (64 FR 51370; September 22, 1999) requires a phased implementation of Appendix VIII over a 3-year period, the final rule addressed the implementation of the Appendix VIII supplements only and failed to mention the implementation of Appendix VIII itself. The failure to address the implementation of Appendix VIII was an oversight. The proposed revision would also eliminate Supplements 12 and 13 of Appendix VIII from the implementation schedule that is currently in 10 CFR 50.55a(g)(6)(ii)(C)(1). Supplements 12 and 13 coordinate the implementation of selected aspects of Supplements 2, 3, 4, 5, 6, 7, 10, and 11 of Appendix VIII. Since the implementation schedule for Supplements 2, 3, 4, 5, 6, 7, 10, and 11 of Appendix VIII is addressed in 10 CFR 50.55a(g)(6)(ii)(C)(1), the imposition of a mandatory implementation date for Supplements 12 and 13 is redundant.

The proposed 10 CFR 50.55a(g)(6)(ii)(C)(2) would clarify that the requirements of Appendix VIII and the supplements to Appendix VIII to Section XI, of the 1995 Edition and later editions and addenda, apply when implementing IWA-2232 of the edition and addenda of Section XI that are referenced in the ISI program Code of Record. Paragraph IWA-2232 provides the rules for conducting the UT examinations required by Section XI. Appendix VIII

was introduced into Section XI in the 1989 Addenda. Before that time, Appendix VIII did not exist in the Code. As a result, IWA-2232 of the 1989 Edition and earlier editions and addenda of Section XI did not reference Appendix VIII, and therefore, the relationship between Appendix VIII and IWA-2232 is not clearly defined for those licensees who are using these earlier editions and addenda of Section XI. The final rule in 64 FR 51370 (September 22, 1999) imposed an expedited implementation of the supplements to Appendix VIII to Section XI, 1995 Edition with the 1996 Addenda, on all licensees. Therefore, the requirement to apply the provisions of Appendix VIII to Section XI, 1995 Edition or later editions and addenda, when implementing IWA-2232 is applicable to all licensees, including those licensees whose ISI programs are based on the 1989 Edition or earlier editions and addenda.

2.4 ASME OM Code

The proposed revision to 10 CFR 50.55a(b)(3) would incorporate by reference the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of the ASME OM Code. The proposed amendment would extend the requirements in 10 CFR 50.55a(b)(3)(ii), 50.55a(b)(3)(iii), 50.55a(b)(3)(iv), and 50.55a(b)(3)(v) to the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of the ASME OM Code. Subsections of the ASME OM Code were renumbered in the 1998 Edition; therefore, 10 CFR 50.55a(b)(3)(ii), 50.55a(b)(3)(iii), and 50.55a(b)(3)(iv) were revised and 50.55a(b)(3)(iii)(D) was added to account for the renumbering. Currently, (b)(3)(ii) references ISTC 4.2 of the 1995 Edition with the 1996 Addenda. Subsection ISTC 4.2 was renumbered to ISTC-3500 in the 1998 Edition, therefore (b)(3)(ii) is revised to reference ISTC-3500. Currently, (b)(3)(iii) references ISTC 4.3 of the 1995 Edition with the 1996 Addenda. Subsection ISTC 4.3

was renumbered to ISTC-3600 in the 1998 Edition, therefore (b)(3)(iii) is revised to reference ISTC-3600. Currently, (b)(3)(iv)(C) references ISTC 4.5.1 through 4.5.4 of the 1995 Edition with the 1996 Addenda. Paragraphs ISTC 4.5.1 through 4.5.4 were renumbered and reorganized in the 1998 Edition. These same provisions are now in ISTC-3510, ISTC-3520, ISTC-3540, and ISTC-5221 of the 1998 Edition, the 1999 Addenda, and the 2000 Addenda. Therefore, (b)(3)(iv)(D) is added to reference ISTC-3510, ISTC-3520, ISTC-3540, and ISTC-5221, and (b)(3)(iv) is revised to require that (b)(3)(iv)(D) be used in lieu of (b)(3)(iv)(C) when using the 1998 Edition, the 1999 Addenda, and the 2000 Addenda.

The proposed modification in 10 CFR 50.55a(b)(3)(vi) would require an exercise interval of 2 years for manual valves within the scope of the ASME OM Code in lieu of the exercise interval of 5 years specified in the 1999 Addenda and the 2000 Addenda of the ASME OM Code. The 1998 Edition of the ASME OM Code (and previous Code editions and addenda) specified an exercise interval of 3 months for manual valves within the scope of the Code. The 1999 Addenda to the ASME OM Code revised ISTC-3540 to extend the exercise frequency for manual valves to 5 years, provided that adverse conditions do not require more frequent testing. The NRC does not consider that sufficient justification exists at this time to allow the significant extension of the exercise interval for manual valves from 3 months to 5 years. Operating experience has revealed that a manual valve can become incapable of operating when not exercised or maintained over a long period of time. See, for example, NRC Information Notice 86-61 (July 28, 1986), "Failure of Auxiliary Feedwater Manual Isolation Valve." The general provision in the 1999 Addenda and the 2000 Addenda of the ASME OM Code regarding the absence of adverse conditions does not provide adequate guidance to allow a Code user to determine that a manual valve can remain idle for 5 years without

adversely impacting its operating capability. The modification to the ASME OM Code in this proposed rule allows a significant relaxation of the exercising requirement for manual valves. Further, the proposed rule specifies an exercise interval for manual valves within the scope of the ASME OM Code consistent with the time period for general experience with the operation of plant equipment over a refueling cycle.

3. Section-by-Section Analysis of Substantive Changes

Paragraph (b)(1). The proposed revision would incorporate by reference the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Division 1 of Section III of the ASME BPV Code. New applicants for a nuclear power plant submitting an application for a construction permit under 10 CFR Part 50 or design certification under 10 CFR Part 52 would be required to use the 1998 Edition up to and including the 2000 Addenda for the design and construction of the reactor coolant pressure boundary and Quality Group B and C components.

Paragraph (b)(1)(ii). The proposed revision would extend the limitation on weld leg dimension requirements to the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Section III of the ASME BPV Code. Applicants and licensees using these Edition and Addenda would not be able to apply paragraph NB-3683.4(c)(1), Footnote 11 to Figure NC-3673.2(b)-1, and Figure ND-3673.2(b)-1.

Paragraph (b)(1)(iii). The proposed revision would extend the limitation on seismic design requirements to the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the

2000 Addenda of Section III of the ASME BPV Code. Applicants and licensees using these edition and addenda would not be able to use Articles NB-3200, NB-3600, NC-3600, and ND-3600.

Paragraph (b)(1)(v). The proposed revision would extend the limitation on independence of inspection requirements to the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Section III of the ASME BPV Code. Applicants and licensees using these edition and addenda would not be able to apply Sub-subparagraph NCA-4134.10(a).

Paragraph (b)(2). The proposed revision would incorporate by reference the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Division 1 of Section XI of the ASME BPV Code. Licensees of nuclear power plants would be required to use the 1998 Edition up to and including the 2000 Addenda when updating their ISI programs in their subsequent 120-month interval under 10 CFR 50.55a(g)(4).

Paragraph (b)(2)(viii). The proposed revision would extend the existing modification in paragraph (b)(2)(viii)(E) on concrete containment examination requirements to the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Section XI of the ASME BPV Code and clarifies that the new modification in paragraph (b)(2)(viii)(F) would apply only to the 1998 Edition with the 1999 Addenda and the 2000 Addenda.

Paragraph (2)(viii)(F). The proposed modification would require that personnel who perform visual inspections of containment surfaces and tendon anchorage hardware, wires, or

strands be qualified in accordance with IWA-2300 in lieu of the “owner-defined” personnel qualification provision in IWE-2310(d).

Paragraph (b)(2)(ix). The proposed revision would clarify that the existing modifications in paragraphs (b)(2)(ix)(A) through (E) of this section on examination of metal containments and liners of Class CC components apply to Subsection IWE, 1992 Edition with the 1992 Addenda or the 1995 Edition with the 1996 Addenda. It would also extend the modifications in paragraphs (b)(2)(ix)(A) and (b)(2)(ix)(B) to the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Section XI of the ASME BPV Code, and clarifies that the new proposed modifications in paragraphs (b)(2)(ix)(F) through (J) would apply only to the 1998 Edition with the 1999 Addenda and 2000 Addenda.

Paragraph (b)(2)(ix)(F). The proposed modification would require that personnel who perform visual inspections of containment surfaces be qualified in accordance with IWA-2300 in lieu of the “owner-defined” personnel qualification provision in IWE-2330(a).

Paragraph (b)(2)(ix)(G). The proposed modification would require that the general and detailed visual examinations specified in IWE-2310(b) and IWE-2310(c) meet the VT-3 and VT-1 examination provisions in IWA-2210 in lieu of the “owner-defined” general and detailed visual examination provisions in IWE-2310(a).

Paragraph (b)(2)(ix)(H). The proposed modification would require the use of the acceptance standard in IWC-3513 to evaluate flaws in pressure-retaining bolting identified

during the examination of containment surfaces, in lieu of the “owner-defined” acceptance standard of IWE-3510.1.

Paragraph (b)(2)(ix)(l)(1) through (4). The proposed modification would supplement the examination requirements for containment bolted connections that are in Table IWE-2500-1, Examination Category E-A, Items E1.10 and E1.11.

Paragraph (b)(2)(ix)(J). The proposed modification would require that the UT examination acceptance standard specified in IWE-3511.3 for Class MC pressure-retaining components also apply to metallic liners of Class CC pressure-retaining components.

Paragraph (b)(2)(xi). The proposed revision would extend the limitation on Class 1 piping exempted from ISI requirements to the 1997 Addenda, 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Section XI of the ASME BPV Code. Licensees using this edition and these addenda would be required to use IWB-1220 from the 1989 Edition.

Paragraph (b)(2)(xii)(A). The proposed limitation would not allow welds in high-energy fluid system piping that are located inside a containment penetration assembly or encapsulated by a guard pipe to be exempted from the examination provisions of Subsection IWC as permitted by IWC-1223. In designs where these welds are inaccessible, relief from impractical Code requirements will continue to be granted by the NRC when appropriate bases are provided by the licensee pursuant to 10 CFR 50.55a(g)(5). The proposed limitation would not apply to moderate-energy fluid system piping. Licensees would be permitted to exempt welds

in moderate-energy system piping that are located inside a containment penetration assembly or encapsulated by a guard pipe from examination in accordance with IWC-1223.

Paragraph (b)(2)(xii)(B). The proposed limitation would not allow containment penetration piping that is connected to piping outside the scope of Section XI to be exempted from the pressure test provisions of Subsection IWA as permitted by IWA-5110(c) of the 1997 Addenda, the 1998 Edition, 1999 Addenda, and 2000 Addenda.

Paragraph (b)(2)(xv). The proposed revision would extend the modifications to Appendix VIII specimen set and qualification requirements to the 1997 Addenda, 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Section XI of the ASME BPV Code. Licensees choosing to use these modifications would be required to apply all the modifications under paragraph (b)(2)(xv) except for those in (b)(2)(xv)(F) which are optional.

Paragraphs (b)(2)(xv)(A), (A)(1), and (A)(2). The proposed revision would update the UT examination coverage criteria to include examination coverage criteria for dissimilar metal piping welds when using personnel, procedures and equipment that are qualified in accordance with Supplement 10 of Appendix VII to Section XI. Licensees are currently performing examinations of dissimilar metal piping welds in accordance with the requirements of the edition and addenda of Section XI of the ASME BPV Code applicable to their respective ISI programs, and are required to do so until November 22, 2002. At that time, licensees would be required to implement the dissimilar metal piping weld qualification requirements of Supplement 10 of Appendix VIII. On that date, and thereafter, licensees would no longer be permitted to examine

dissimilar metal piping welds in accordance with the requirements of Section XI of the edition and addenda of the ASME BPV Code applicable to their respective ISI programs.

Paragraph (b)(2)(xv)(G)(4). The proposed revision would delete paragraph (b)(2)(xv)(G)(4). This requirement is redundant with the requirement in paragraph (b)(2)(xv)(G)(3) and is unnecessary. As a result, this revision involves no substantive change.

Paragraph (b)(2)(xv)(K)(1)(i). The proposed revision would clarify that flaws perpendicular to the weld located in the outer 85 percent of the weld are not required to be included in the qualification test sample. The proposed revision neither increases nor decreases current requirements, but would clarify conflicting requirements that currently exist.

Paragraph (b)(2)(xv)(M). The proposed revision would clarify that only the provisions in Supplement 12 to Appendix VIII that are related to the coordinated implementation of Supplement 3 to Supplement 2 performance demonstrations are required to be implemented.

Paragraph (b)(2)(xvii). The proposed revision would extend the limitation on reconciliation of quality requirements to the 1997 Addenda, 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Section XI of the ASME BPV Code. Licensees using IWA-4200 of this edition and these addenda would be required to procure replacement and repair items under its approved quality assurance program required by 10 CFR Part 50, Appendix B. The limitation would not permit licensees to use IWA-4200 to procure repair and replacement items to be used in ASME Code safety-related applications that are manufactured under a non-nuclear code or non-nuclear standard without an approved quality assurance program.

Paragraph (b)(2)(xviii)(A). The proposed modification would require that Level I and II NDE personnel and personnel qualified under the Nondestructive Testing Control Certifications Program be recertified on a 3-year interval in lieu of the 5-year interval specified in IWA-2314.

Paragraph (b)(2)(xviii)(B). The proposed modification would require that when qualifying VT-2 examination personnel in accordance with IWA-2316, the proficiency of the training required under IWA-2316 must be demonstrated by administering initial qualification and recertification examinations. The implementation of IWA-2316 is only applicable to the performance of VT-2 visual examinations.

Paragraph (b)(2)(xviii)(C). The proposed modification would require that when qualifying VT-3 examination personnel in accordance with IWA-2317, the proficiency of the training required under IWA-2317 must be demonstrated by administering initial qualification and recertification examinations. The implementation of IWA-2317 is only applicable to the performance of VT-3 visual examinations.

Paragraph (b)(2)(xix). The proposed limitation would prohibit the use of the provisions in IWA-2240 and IWA-4520(c) which would allow alternative examination methods, a combination of methods, or newly developed techniques to be substituted for the methods specified in the Construction Code during repair and replacement activities.

Paragraph (b)(2)(xx). The proposed limitation would require that the system leakage test pressure and temperature hold time requirements of IWA-5213(a) of the 1995 Edition of Section XI be retained in ISI programs when using the 1997 Addenda, the 1998 Edition, the

1999 Addenda, and the 2000 Addenda of Section XI. A 10-minute hold time for non-insulated systems and components or 4-hour hold time for insulated systems and components would be required after attaining system operating pressure.

Paragraph (b)(2)(xxi)(A). The proposed limitation would require that pressurizer and steam generator nozzle inside-radius inspections be retained in ISI programs. Licensees would not be allowed to eliminate the pressurizer and steam generator nozzle inside-radius inspections of Table IWB-2500-1, Examination Category B-D, Items B3.40 and B3.60 (Inspection Program A) and Items B3.120 and B3.140 (Inspection Program B) as allowed by the 1999 Addenda and the 2000 Addenda of Section XI.

Paragraph (b)(2)(xxi)(B). The proposed limitation would require that the CRD bolting examinations of Table IWB-2500-1, Examination Category B-G-2, Item B7.80, of the 1995 Addenda of Section XI be retained in ISI programs when using the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Section XI.

Paragraph (b)(2)(xxi)(C). The proposed limitation would require that the attachment weld single-side volumetric examination of Table IWB-2500-1, Examination Category B-K, Item B10.10, of the 1995 Addenda of Section XI be retained in ISI programs when using the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Section XI.

Paragraph (b)(2)(xxii). The proposed limitation would not allow the use of the revised supplemental annual training requirements for UT examiners in Appendix VII,

paragraph VII-4240, of the 1999 Addenda and 2000 Addenda of Section XI. Licensees would be required to use the requirements in Appendix VII, paragraph VII-4240, of the 1998 Edition.

Paragraph (b)(2)(xxiii). The proposed modification would require that the acceptability of underwater welding methods be demonstrated through the use of a mockup, when welding high neutron fluence Class 1 material underwater in accordance with IWA-4660 of Section XI.

Paragraph (b)(3). The proposed revision would incorporate by reference the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of the ASME OM Code. Licensees of nuclear power plants would be required to use the 1998 Edition up to and including the 2000 Addenda when updating their inservice testing programs in their subsequent 120-month interval under 10 CFR 50.55a(f)(4).

Paragraph (b)(3)(ii). The proposed revision would extend the modification to motor-operated valve stroke-time testing requirements to the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of the ASME OM Code, reconciling those subsections of the ASME OM Code that were renumbered in the 1998 Edition. Licensees using this edition and these addenda would be required to establish a program to ensure that MOVs continue to be capable of performing their design basis safety functions.

Paragraph (b)(3)(iii). The proposed revision would extend the modification on Code Case OMN-1 to the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of the ASME OM Code, reconciling those subsections of the ASME OM Code that were renumbered in the 1998 Edition. The modification would continue to allow, as a

voluntary alternative, licensees to use Code Case OMN-1 in lieu of the stroke-time testing requirements of paragraph (b)(3)(ii) when using this edition and these addenda.

Paragraph (b)(3)(iv). The proposed revision would extend the modifications in paragraphs (b)(3)(iv)(A), (B), and (C) on check valve condition monitoring requirements to the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of the ASME OM Code. There would be no substantive changes in the requirements, but rather they would be revised to reconcile the different subsection and paragraph numbers of the ASME OM Code that were renumbered in the 1998 Edition.

Paragraph (b)(3)(iv)(D). The proposed paragraph would not change requirements, but would rather reconcile, for the existing modification, the different subsection and paragraph numbers of the ASME OM Code that were renumbered in the 1998 Edition.

Paragraph (b)(3)(v). The proposed revision would extend the snubber ISI requirements to the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of the ASME OM Code.

Paragraph (b)(3)(vi). The proposed modification would require an exercise interval of 2 years for manual valves within the scope of the ASME OM Code in lieu of the exercise interval of 5 years specified in the 1999 Addenda and the 2000 Addenda of the ASME OM Code.

Paragraphs (g)(6)(ii)(B)(1) through (4). The proposed revision would delete the containment examination requirements in 10 CFR 50.55a(g)(6)(ii)(B)(1) through (4) because the implementation dates have expired and all licensees have completed their first containment inservice inspection requirements by that time or have been approved by an exemption for a delay; would add a new 10 CFR 50.55a(g)(6)(ii)(B)(1) to clarify that the start date of the first 120-month interval for the ISI of Class MC and Class CC components must coincide with the start of the first containment inspection; and would redesignate 10 CFR 50.55a(g)(6)(ii)(B)(5) as 10 CFR 50.55a(g)(6)(ii)(B)(2).

Paragraph (g)(6)(ii)(C)(1). The proposed revision would clarify that Appendix VIII to Section XI, 1995 Edition with the 1996 Addenda, as well as its supplements, would be required, and would also eliminate Supplements 12 and 13 of Appendix VIII from the implementation schedule.

Paragraph (g)(6)(ii)(C)(2). The proposed paragraph would clarify the requirements of Appendix VIII and the supplements to Appendix VIII to Section XI when implementing IWA-2232 of Section XI.

4. Withdrawal of a Proposed Rule to Eliminate 120-Month Update

On December 3, 1997 (62 FR 63892), NRC published a proposed rule to incorporate by reference in 10 CFR 50.55a the 1989 Addenda, 1990 Addenda, 1991 Addenda, 1992 Edition, 1992 Addenda, 1993 Addenda, 1994 Addenda, 1995 Edition, 1995 Addenda, and 1996 Addenda of Section III, Division 1 and Section XI, Division 1 of the ASME BPV Code; and

the 1995 Edition and 1996 Addenda of the ASME OM Code. The statements of consideration for the proposed rule noted that the Commission was considering a change to the 120-month update requirements of 10 CFR 50.55a for ISI/IST programs. Several public comments were received on this issue, and as a result, the NRC issued a supplement to the December 1997 proposed rule on April 27, 1999 (64 FR 22580), that proposed to eliminate the requirement for licensees to update their ISI and IST programs beyond a baseline edition and addenda of the ASME BPV Code. The NRC staff held a public workshop on May 27, 1999, to discuss the 120-month ISI/IST update requirement. The final rule that incorporated by reference later editions and addenda of the ASME Code published on September 22, 1999 (64 FR 51370), stated that the Commission would consider elimination of the 120-month update requirement in a separate rulemaking. The Commission disapproved the elimination of the 120-month update requirement in an SRM dated April 13, 2000, because the ASME Codes are subject to continuing refinement and improvement and it would be inappropriate to freeze these still evolving requirements. Therefore, the Commission is withdrawing the proposed rule published on April 27, 1999 (64 FR 22580).

5. Draft Generic Aging Lessons Learned Report

On August 31, 2000 (65 FR 53047), the NRC issued a draft Generic Aging Lessons Learned (GALL) report for public comment. The draft GALL report evaluates existing generic programs, documents the basis for determining when generic existing programs are adequate without change, and documents when generic existing programs should be augmented for licensee renewal. Section XI, Division 1, of the ASME BPV Code is one of the generic existing programs in the draft GALL report that is evaluated as an aging management program for

license renewal. Subsections IWB, IWC, IWD, and IWF of the 1989 Edition of Section XI of the ASME BPV Code for ISI and the 1992 Edition of Subsections IWE and IWL of Section XI of the ASME BPV Code for ISI were evaluated in the draft GALL report. Changes between the 1989 and 1995 Editions of Section XI of the ASME BPV Code were also reviewed, and the conclusions in the draft GALL report remain valid for the 1995 Edition of Section XI of the ASME BPV Code.

In the draft Gall Report, Sections XI.M1, "ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD," XI.S1, "ASME Section XI, Subsection IWE," XI.S2, "ASME Section XI, Subsection IWL," and XI.S3, "ASME Section XI, Subsection IWF," describe the evaluation and technical basis for determining the adequacy of Subsections IWB, IWC, IWD, IWE, IWF and IWL. A 10-element program with such attributes as scope of program, preventive actions, parameters monitored/inspected, detection of aging effects, monitoring and trending, acceptance criteria, corrective actions, confirmation process, administrative controls, and operating experience was used to perform the evaluation.

The NRC has completed an evaluation of Subsections IWB, IWC, IWD, IWE, IWF, and IWL of Section XI of the ASME BPV Code, 1997 Addenda, 1998 Edition, 1999 Addenda, and 2000 Addenda, as part of the 10 CFR 50.55a amendment process to ensure that the conclusions of the draft GALL report remain valid. Although some of the revisions in Section XI of the ASME BPV Code relax the provisions of the 1995 Edition, the revisions are acceptable and the conclusions of the draft GALL report remain valid. However, several of the revisions to Subsections IWA, IWB, IWE, and IWL that are discussed in the preceding Section 2, might affect the validity of the conclusions in the draft GALL report because provisions in the

1995 Edition that address examination requirements, acceptance standards, and leakage tests for Class 1, 2, CC, and MC components are significantly relaxed or eliminated in the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda. The proposed limitations and modifications, 50.55a(b)(2)(ix)(G), 50.55a(b)(2)(ix)(H), 50.55a(b)(2)(ix)(I), 50.55a(b)(2)(ix)(J), 50.55a(b)(2)(xii)(B), 50.55a(b)(2)(xix), 50.55a(b)(2)(xx), and 50.55a(b)(2)(xxi) which are further discussed in the preceding Section 2, would require that the revised provisions be supplemented with additional inspection requirements or would prohibit the use of the revised provisions. The conclusions of the draft GALL report remain valid for the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Section XI of the ASME BPV Code with use of the proposed limitations and modifications presented in this proposed rulemaking. However, the NRC would impose these limitations and modifications to ensure consistency in the examination requirements, acceptance standards, and leakage tests, and not solely to validate the conclusions in the draft GALL report.

6. Availability of Documents

The NRC is making the documents identified below available to interested persons through one or more of the following methods as indicated.

Public Document Room (PDR). The NRC Public Document Room is located at 11555 Rockville Pike, Rockville, Maryland.

Rulemaking Website (Web). The NRC's interactive rulemaking Website is located at <http://ruleforum.llnl.gov>. These documents may be viewed and downloaded electronically via this Website.

NRC’s Public Electronic Reading Room (PERR). The NRC’s public electronic reading room is located at <http://www.nrc.gov/NRC/ADAMS/index.html>.

NRC Staff Contact (NRC Staff). Single copies of the *Federal Register* Notice, Regulatory Analysis, and Environmental Assessment may be obtained from Stephen Tingen, Division of Engineering, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001. Alternatively, you may contact Mr. Tingen at (301) 415-1280, or via e-mail at: sgt@nrc.gov.

Document	PDR	Web	PERR	NRC Staff
<i>Federal Register</i> Notice	X	X	(ML011970223)	X
Regulatory Analysis	X	X	(ML011970231)	X
Environmental Assessment	X	X	(ML011970235)	X

7. Plain Language

The Presidential memorandum dated June 1, 1998, entitled, “Plain Language in Government Writing,” directed that the Federal government’s writing must be in plain language. The NRC requests comments on this proposed rule specifically with respect to the clarity and effectiveness of the language used. Comments should be sent to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. ATTN: Rulemaking and Adjudications Staff. Hand deliver comments to 11555 Rockville Pike, Rockville, Maryland, 20852, between 7:30 a.m. and 4:15 p.m. on Federal workdays.

8. Voluntary Consensus Standards

The National Technology Transfer and Advancement Act of 1995, Pub. L. 104-113, requires agencies to use technical standards that are developed or adopted by voluntary consensus standards bodies unless the use of such a standard is inconsistent with applicable law or is otherwise impractical. The NRC is amending its regulations to incorporate by reference a later edition and addenda of Sections III and XI of the ASME BPV Code and ASME OM Code, for construction, ISI, and IST of nuclear power plant components as identified in the preceding Section 2.

In an SRM dated September 10, 1999, the Commission directed the NRC staff to identify all portions of an adopted voluntary consensus standard which are not adopted by the staff and to provide a justification for not adopting such portions. The portions of the ASME BPV Code and OM Code which the staff is proposing not to adopt, or to partially adopt, are identified in Section 2 of the preceding section.

In accordance with the National Technology Transfer and Advancement Act of 1995 and Office of Management and Budget (OMB) Circular A-119, the NRC is requesting public comment regarding whether other national or international consensus standards could be endorsed as an alternative to the ASME BPV Code and the ASME OM Code.

9. Finding of No Significant Environmental Impact: Availability

The Commission has determined, under the National Environmental Policy Act of 1969, as amended, and the Commission's regulations in Subpart A of 10 CFR Part 51, that this rule, if adopted, would not be a major Federal action significantly affecting the quality of the human environment, and therefore, an environmental impact statement is not required.

The proposed rulemaking will not significantly increase the probability or consequences of accidents; no changes are being made in the types of any effluents that may be released off-site; there is a decrease in occupational exposure; and there is no significant increase in public radiation exposure. Therefore, there are not significant radiological impacts associated with the proposed action. The proposed rulemaking does not involve non-radiological plant effluents and has no other environmental impact. Therefore, no significant non-radiological impacts are associated with the proposed action.

The determination of this environmental assessment is that there will be no significant offsite impact to the public from this action. However, the general public should note that the NRC is seeking public participation. Comments on any aspect of the environmental assessment may be submitted to the NRC as indicated by under the ADDRESSES heading.

Section 6 in the preceding section of this notice describes how to obtain a copy the draft environmental assessment. The Commission requests public comment on the draft environmental assessment and comments may be submitted to the NRC as indicated under the ADDRESSES heading.

The NRC has sent a copy of the environmental assessment and this proposed rule to every State Liaison Officer and requested their comments on the environmental assessment.

10. Paperwork Reduction Act Statement

This proposed rule amends information collection requirements that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). This proposed rule has been submitted to OMB for review and approval of the information collection requirements.

The burden to the public for these information collections is estimated to average 67 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collection. The NRC is seeking public comment on the potential impact of the information collections contained in the proposed rule and on the following issues:

1. Is the proposed information collection necessary for the proper performance of the functions of the NRC, including whether the information will have practical utility?
2. Is the estimate of burden accurate?
3. Is there a way to enhance the quality, utility, and clarity of the information to be collected?

4. How can the burden of the information collection be minimized, including the use of automated collection techniques?

Send comments on any aspect of these proposed information collections, including suggestions for reducing the burden, to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet electronic mail to BJS1@NRC.GOV; and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0011), Office of Management and Budget, Washington, DC 20503.

Comments to OMB on the information collections or on the above issues should be submitted by (insert date 30 days after publication in the *Federal Register*). Comments received after this date will be considered if it is practical to do so, but assurance of consideration cannot be given to comments received after this date.

Public Protection Notification

If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

11. Regulatory Analysis

The NRC has prepared a draft regulatory analysis on this proposed rule. The draft analysis is available for review in the NRC's Public Document Room, located in One White Flint North, 11555 Rockville Pike, Rockville, Maryland. Section 6 in the preceding section of this notice describes how to obtain a copy of the draft regulatory analysis. The Commission requests public comment on the draft analysis and comments may be submitted to the NRC as indicated under the ADDRESSES heading.

12. Regulatory Flexibility Certification

In accordance with the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Commission certifies that this proposed amendment will not, if promulgated, have a significant economic impact on a substantial number of small entities. This proposed amendment affects only the licensing and operation of nuclear power plants. The companies that own these plants do not fall within the scope of the definition of small entities set forth in the Regulatory Flexibility Act or the Small Business Size Standards set forth in regulations issued by the Small Business Administration at 13 CFR Part 121.

13. Backfit Analysis

The NRC's regulations in 10 CFR 50.55a require nuclear power plant licensees to construct Class 1, 2, and 3 components in accordance with the rules provided in Section III, Division 1, of the ASME BPV Code; inspect Class 1, 2, 3, Class MC, and Class CC components

in accordance with the rules provided in Section XI, Division 1, of the ASME BPV Code; and test Class 1, 2, and 3 pumps and valves in accordance with the rules provided in the ASME OM Code. The proposed rule incorporates by reference the 1997 Addenda, the 1998 Edition, the 1999 Addenda, and the 2000 Addenda of Section III, Division 1, of the ASME BPV Code; Section XI, Division 1, of the ASME BPV Code; and the ASME OM Code.

The NRC's regulations require licensees to revise their ISI and IST programs every 120 months to the edition and addenda of Section XI of the ASME BPV Code and the ASME OM Code incorporated by reference into 10 CFR 50.55a that is in effect 12 months prior to the start of a new 120-month interval. The regulation in 10 CFR 50.109 does not ordinarily require a backfit analysis for routine amendments to 10 CFR 50.55a. The bases for the NRC position are that--

(1) Section III, Division 1, applies only to new construction (i.e., the edition and addenda to be used in constructing a plant are selected on the basis of the date of the construction permit, and are not changed thereafter, except voluntarily by the licensee);

(2) Licensees understand that 10 CFR 50.55a requires that they revise their ISI and IST programs every 120 months to the latest edition and addenda of the ASME Code that were incorporated by reference in 10 CFR 50.55a and in effect 12 months before the start of the next inspection interval; and

(3) The ASME Code is a national consensus standard developed by participants with broad and varied interests, in which all interested parties (including the NRC and utilities) participate.

This consideration is consistent with both the intent and spirit of the Backfit Rule (i.e., the NRC provides for the protection of the public health and safety, and does not unilaterally impose undue burden on applicants or licensees).

In the proposed revision to 10 CFR 50.55a(b)(2)(xv)(A), (A)(1) and (A)(2) that is discussed in the preceding Section 2.3.1, the Commission is adopting dissimilar metal piping weld examination coverage requirements. These requirements, although contained in the 1989 Edition, and earlier editions and addenda of Section XI of the ASME Code, are not addressed in later editions and addenda of Section XI. The Commission concludes that the addition of dissimilar metal piping weld examination coverage requirements to the regulation is necessary to correct the omission by the ASME Code to ensure adequate protection of public health and safety.

List of Subjects in 10 CFR Part 50

Antitrust, Classified information, Criminal penalties, Fire protection, Intergovernmental relations, Nuclear power plants and reactors, Radiation protection, Reactor siting criteria, Reporting and recordkeeping requirements.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and 5 U.S.C. 553, the NRC is proposing to adopt the following amendments to 10 CFR Part 50.

PART 50--DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

1. The authority citation for Part 50 is revised to read as follows:

Authority: Sections 102, 103, 104, 105, 161, 182, 183, 186, 189, 68 Stat. 936, 937, 938, 948, 953, 954, 955, 956, as amended, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2132, 2133, 2134, 2135, 2201, 2232, 2233, 2239, 2282); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846).

Section 50.7 also issued under Pub. L. 95-601, sec. 10, 92 Stat. 2951 as amended by Pub L. 102-486, sec. 2902, 106 Stat. 3123 (42 U.S.C. 5851). Section 50.10 also issued under secs. 101, 185, 68 Stat. 936, 955 as amended (42 U.S.C. 2131, 2235), sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.13, 50.54(dd), and 50.103 also issued under sec. 108, 68 Stat. 939, as amended (42 U.S.C. 2138). Sections 50.23, 50.35, 50.55, and 50.56 also issued under sec. 185, 68 Stat. 955 (42 U.S.C. 2235). Sections 50.33a, 50.55a and appendix Q also issued under sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.34 and 50.54 also issued under Pub. L. 97-415, 96 Stat. 2073 (42 U.S.C. 2239). Section 50.78 also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Sections 50.80-50.81 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Appendix F also issued under sec. 187, 68 Stat. 955 (42 U.S.C. 2237).

2. Section 50.55a is amended by:

(a) removing paragraphs (b)(2)(xv)(G)(4), (g)(6)(ii)(B)(3), and (g)(6)(ii)(B)(4);

(b) redesignating and revising paragraph (g)(6)(ii)(B)(5) as (g)(6)(ii)(B)(2);

(c) revising the introductory text of paragraph (b)(1), paragraphs (b)(1)(ii), (b)(1)(iii), and (b)(1)(v), the introductory text of paragraphs (b)(2), (b)(2)(viii), and (b)(2)(ix), paragraph (b)(2)(xi), the introductory text of paragraph (b)(2)(xv), paragraphs (b)(2)(xv)(A), (b)(2)(xv)(K)(1)(i), and (b)(2)(xvii), the introductory text of paragraph (b)(3), paragraph (b)(3)(ii), the introductory text of paragraphs (b)(3)(iii) and (b)(3)(iv), and paragraphs (b)(3)(v), (g)(6)(ii)(B)(1), and (g)(6)(ii)(C)(1);and

(d) adding paragraphs (b)(2)(viii)(F), (b)(2)(ix)(F) through (b)(2)(ix)(J), (b)(2)(xii), (b)(2)(xv)(M), (b)(2)(xviii) through (b)(2)(xxiii), (b)(3)(iv)(D), (b)(3)(vi), and (g)(6)(ii)(C)(2).

§ 50.55a Codes and standards.

* * * * *

(b) * * *

(1) As used in this section, references to Section III of the ASME *Boiler and Pressure Vessel Code* refer to Section III, Division 1, and include editions through the 1998 Edition and addenda through the 2000 Addenda, subject to the following limitations and modifications:

* * * * *

(ii) *Weld leg dimensions*. When applying the 1989 Addenda through the latest editions and addenda incorporated by reference in paragraph (b)(1) of this section, licensees may not

apply paragraph NB-3683.4(c)(1), Footnote 11 to Figure NC-3673.2(b)-1, and Figure ND-3673.2(b)-1.

(iii) *Seismic design*. Licensees may use Articles NB-3200, NB-3600, NC-3600, and ND-3600 up to and including the 1993 Addenda, subject to the limitation specified in paragraph (b)(1)(ii) of this section. Licensees may not use these Articles in the 1994 Addenda through the latest editions and addenda incorporated by reference in paragraph (b)(1) of this section.

* * * * *

(v) *Independence of inspection*. Licensees may not apply NCA-4134.10(a) of Section III, 1995 Edition through the latest editions and addenda incorporated by reference in paragraph (b)(1) of this section.

(2) As used in this section, references to Section XI of the ASME *Boiler and Pressure Vessel Code* refer to Section XI, Division 1, and include editions through the 1998 Edition and addenda through the 2000 Addenda, subject to the following limitations and modifications:

* * * * *

(viii) *Examination of concrete containments*. Licensees applying Subsection IWL, 1992 Edition with the 1992 Addenda, shall apply paragraphs (b)(2)(viii)(A) through (b)(2)(viii)(E) of this section. Licensees applying the 1995 Edition with the 1996 Addenda shall apply paragraphs (b)(2)(viii)(A), (b)(2)(viii)(D)(3), and (b)(2)(viii)(E) of this section. Licensees applying

the 1998 Edition with the 1999 and 2000 Addenda shall apply paragraphs (b)(2)(viii)(E) and (b)(2)(viii)(F) of this section.

* * * * *

(F) Qualification provisions for personnel that examine containment concrete surfaces and tendon hardware, wires, or strands must be in accordance with IWA-2300 in lieu of “owner-defined” personnel qualification provisions in IWL-2310(d).

(ix) Examination of metal containments and the liners of concrete containments.

Licensees applying Subsection IWE, 1992 Edition with the 1992 Addenda, or the 1995 Edition with the 1996 Addenda, shall satisfy the requirements of paragraphs (b)(2)(ix)(A) through (b)(2)(ix)(E) of this section. Licensees applying the 1998 Edition with the 1999 Addenda and 2000 Addenda shall only satisfy the requirements of paragraphs (b)(2)(ix)(A), (b)(2)(ix)(B), (b)(2)(ix)(F) through (b)(2)(ix)(J) of this section.

* * * * *

(F) Qualification provisions for personnel who conduct visual examinations of containment surfaces must be in accordance with IWA-2300 in lieu of “owner-defined” personnel qualification provisions of IWE-2330(a).

(G) The general and detailed visual examinations required by IWE-2310(b) and IWE-2310(c) must meet the VT-3 and VT-1 examination provisions of IWA-2210 in lieu of the

“owner-defined” general and detailed visual examination provisions in IWE-2310(a).

Table IWA-2210-1 maximum direct examination distance may be extended and

Table IWA-2210-1 minimum illumination requirements may be decreased as permitted by (b)(2)(ix)(B) of this section.

(H) The acceptance standard of IWC-3513 must be used to evaluate flaws in pressure-retaining bolting that is greater than or equal to 51 millimeters [2 inches] in diameter identified during the examination of containment surfaces in lieu of the “owner-defined” acceptance standard in IWE-3510.1.

(I) The examination provisions for containment bolted connections contained in Table IWE-2500-1, Examination Category E-A, Containment Surfaces, Items E1.10 and E1.11, must be supplemented with the following examination requirements:

(1) The general visual examination must include the examination of bolted connections that are disassembled at the time of a scheduled inspection.

(2) A detailed visual examination must be performed for areas where flaws or degradation are indicated.

(3) Damaged bolted connections must be disassembled, and a detailed visual examination of the bolted connection components must be performed.

(4) If a bolted connection is disassembled at times other than a periodic (or planned) inspection and is not examined by a qualified visual examiner before reassembly, written maintenance procedures must be followed to ensure that the integrity of the reassembled bolted connection is maintained. The written procedures must include acceptance criteria for the continued use of all parts of the connection including bolts, studs, nuts, bushings, washers, threads in base material, and flange ligaments between fastener holes.

(J) The ultrasonic examination acceptance standard specified in IWE-3511.3 for Class MC pressure-retaining components must also be applied to metallic liners of Class CC pressure-retaining components.

* * * * *

(xi) *Class 1 piping.* Licensees may not apply IWB-1220, "Components Exempt from Examination," of Section XI, 1989 Addenda through the latest editions and addenda incorporated by reference in paragraph (b)(2) of this section, and shall apply IWB-1220, 1989 Edition.

(xii) *Containment penetration piping.*

(A) Welds in high-energy fluid system containment penetration piping located inside a containment penetration assembly or encapsulated by a guard pipe are not exempt from the examination provisions of Subsection IWC as permitted by IWC-1223 of the 1997 Addenda

through the latest editions and addenda incorporated by reference in paragraph (b)(2) of this section.

(B) Piping that penetrates the containment that is connected to piping that is outside the scope of Section XI is not exempt from the pressure testing provisions of Subsection IWA as permitted by IWA-5110(c) of the 1997 Addenda through the latest editions and addenda incorporated by reference in paragraph (b)(2) of this section.

* * * * *

(xv) *Appendix VIII specimen set and qualification requirements.* The following provisions may be used to modify implementation of Appendix VIII of Section XI, 1995 Edition through the latest editions and addenda incorporated by reference in paragraph (b)(2) of this section. Licensees choosing to apply these provisions shall apply all of the following provisions under this subparagraph except for those in § 50.55a(b)(2)(xv)(F) which are optional.

(A) When applying Supplements 2, 3, and 10 to Appendix VIII, the following examination coverage criteria requirements must be used:

(1) Piping must be examined in two axial directions, and when examination in the circumferential direction is required, the circumferential examination must be performed in two directions, provided access is available. Dissimilar metal welds must be examined axially and circumferentially.

(2) Where examination from both sides is not possible, full coverage credit may be claimed from a single side for ferritic welds. Where examination from both sides is not possible on austenitic welds or dissimilar metal welds, full coverage credit from a single side may be claimed only after completing a successful single-sided Appendix VIII demonstration using flaws on the opposite side of the weld. Dissimilar metal welds must be examined from the side that is of the same base metal material as that from which qualification was demonstrated.

* * * * *

(K) * * *

(1) * * *

(i) For detection, a minimum of four flaws in one or more full-scale nozzle mock-ups must be added to the test set. The specimens must comply with Supplement 6, paragraph 1.1, to Appendix VIII, except for flaw locations specified in Table VIII S6-1. Flaws may be either notches, fabrication flaws or cracks. Seventy-five percent of the flaws must be cracks or fabrication flaws. Flaw locations and orientations must be selected from the choices shown in § 50.55a(b)(2)(xv)(K)(4), Table VIII-S7-1-Modified, with the exception that flaws in the outer 85 percent of the weld need not be perpendicular to the weld. There may be no more than two flaws from each category, and at least one subsurface flaw must be included.

* * * * *

(M) When implementing Supplement 12 to Appendix VIII, only the provisions related to the coordinated implementation of Supplement 3 to Supplement 2 performance demonstrations are required.

* * * * *

(xvii) *Reconciliation of Quality Requirements.* When purchasing replacement items, in addition to the reconciliation provisions of IWA-4200, 1995 Edition through the latest editions and addenda incorporated by reference in paragraph (b)(2) of this section, the replacement items must be purchased, to the extent necessary, in accordance with the licensee's quality assurance program description required by 10 CFR 50.34(b)(6)(ii).

(xviii) *Certification of NDE personnel.*

(A) Level I and II nondestructive examination personnel, and personnel qualified under the American Society for Nondestructive Testing Control Certifications Program shall be recertified on a 3-year interval in lieu of the 5-year interval specified in IWA-2314 of the 1997 Addenda and the 1998 Edition, and IWA-2314(a) and IWA-2314(b) of the 1999 Addenda through the latest editions and addenda incorporated by reference in paragraph (b)(2) of this section.

(B) Paragraph IWA-2316 of the 1998 Edition through the latest editions and addenda incorporated by reference in paragraph (b)(2) of this section, may be used to qualify visual examination personnel only for the performance of VT-2 visual examinations when the

proficiency of the training required under IWA-2316 is demonstrated by administering an initial qualification examination and administering recertification examinations on a 3-year interval.

(C) Paragraph IWA-2317 of the 1998 Edition through the latest editions and addenda incorporated by reference in paragraph (b)(2) of this section, may be used to qualify visual examination personnel only for the performance of VT-3 visual examinations when the proficiency of the training required under IWA-2317 is demonstrated by administering an initial qualification examination and administering recertification examinations on a 3-year interval.

(xix) *Substitution of alternative methods.* The provision in IWA-2240, 1998 Edition through the latest editions and addenda incorporated by reference in paragraph (b)(2) of this section, and IWA-4520(c), 1997 Addenda through the latest editions and addenda incorporated by reference in paragraph (b)(2) of this section, that allows the substitution of alternative examination methods, a combination of methods, or newly developed techniques for the methods specified in the Construction Code may not be applied.

(xx) *System leakage tests.* The pressure and temperature hold time requirements of IWA-5213(a) of the 1995 Edition must be applied in lieu of the provisions of IWA-5213(a) of the 1997 Addenda through the latest editions and addenda incorporated by reference in paragraph (b)(2) of this section, when performing system leakage tests.

(xxi) *Table IWB-2500-1 examination requirements.*

(A) The provisions of Table IWB-2500-1, Examination Category B-D, Full Penetration Welded Nozzles in Vessels, Items B3.40 and B3.60 (Inspection Program A) and Items B3.120 and B3.140 (Inspection Program B) that are in the 1997 Addenda and 1998 Edition must be applied when using the 1999 Addenda through the latest editions and addenda incorporated by reference in paragraph (b)(2) of this section.

(B) The provisions of Table IWB-2500-1, Examination Category B-G-2, Item B7.80, that are in the 1995 Edition must be applied when using the 1997 Addenda through the latest editions and addenda incorporated by reference in paragraph (b)(2) of this section.

(C) The provisions of Table IWB-2500-1, Examination Category B-K, Item B10.10, of the 1995 Addenda must be applied when using the 1997 Addenda through the latest editions and addenda incorporated by reference in paragraph (b)(2) of this section.

(xxii) *Annual Training Requirements for Ultrasonic Examiners.* Supplemental annual training for ultrasonic examiner qualification must be in accordance with Appendix VII, paragraph VII-4240, of the 1998 Edition when using the 1999 Addenda through the latest editions and addenda incorporated by reference in paragraph (b)(2) of this section.

(xxiii) *Underwater Welding.* When welding high neutron fluence Class 1 material underwater in accordance with IWA-4660, 1997 Addenda through the latest editions and addenda incorporated by reference in paragraph (b)(2) of this section, the acceptability of the welding method must include demonstration on a mockup using material with similar neutron fluence levels to verify that adequate crack prevention measures were used.

(3) As used in this section, references to the OM Code refer to the ASME *Code for Operation and Maintenance of Nuclear Power Plants*, and include the 1995 Edition through the 2000 Addenda subject to the following limitations and modifications:

* * * * *

(ii) *Motor-Operated Valve stroke-time testing*. Licensees shall comply with the provisions on stroke-time testing in OM Code ISTC 4.2, 1995 Edition with the 1996 and 1997 Addenda, or ISTC-3500, 1998 Edition through the latest editions and addenda incorporated by reference in paragraph (b)(3) of this section, and shall establish a program to ensure that motor-operated valves continue to be capable of performing their design basis safety functions.

(iii) *Code Case OMN-1*. As an alternative to § 50.55a(b)(3)(ii), licensees may use Code Case OMN-1, “Alternative Rules for Preservice and Inservice Testing of Certain Electric Motor-Operated Valve Assemblies in Light Water Reactor Power Plants,” Revision 0, in conjunction with ISTC 4.3, 1995 Edition with the 1996 and 1997 Addenda, or ISTC-3600, 1998 Edition through the latest editions and addenda incorporated by reference in paragraph (b)(3) of this section. Licensees choosing to apply the Code Case shall apply all of its provisions.

* * * * *

(iv) *Appendix II*. Licensees applying Appendix II, “Check Valve Condition Monitoring Program,” of the OM Code, 1995 Edition with the 1996 and 1997 Addenda, shall satisfy the

requirements of (b)(3)(iv)(A), (b)(3)(iv)(B), and (b)(3)(iv)(C) of this section. Licensees applying Appendix II, 1998 Edition through the latest editions and addenda incorporated by reference in paragraph (b)(3) of this section, shall satisfy the requirements of (b)(3)(iv)(A), (b)(3)(iv)(B), and (b)(3)(iv)(D) of this section.

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(D) The provisions of ISTC-3510, ISTC-3520, and ISTC-3540 in addition to ISTC-5221 must be implemented if the Appendix II condition monitoring program is discontinued.

(v) *Subsection ISTD*. Article IWF-5000, "Inservice Inspection Requirements for Snubbers," of the ASME BPV Code, Section XI, provides inservice inspection requirements for examinations and tests of snubbers at nuclear power plants. Licensees may use Subsection ISTD, "Inservice Testing of Dynamic Restraints (Snubbers) in Light-Water Reactor Power Plants," ASME OM Code, 1995 Edition through the latest editions and addenda incorporated by reference in paragraph (b)(3) of this section, in lieu of the requirements for snubbers in Section XI, IWF-5200(a) and (b) and IWF-5300(a) and (b), by making appropriate changes to their technical specifications or licensee controlled documents. Preservice and inservice examinations must be performed using the VT-3 visual examination method described in IWA-2213.

(vi) *Exercise interval for manual valves*. Manual valves must be exercised on a 2-year interval in lieu of the 5-year interval specified in paragraph ISTC-3540 of the 1999 Addenda

through the latest editions and addenda incorporated by reference in paragraph (b)(3) of this section, provided that adverse conditions do not require more frequent testing.

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(ii) * * *

(B) * * *

(1) The start of the first 120-month interval for inservice inspection of Class MC and Class CC components must coincide with the start of the first containment inspection.

(2) Licensees do not have to submit to the NRC staff for approval of their containment inservice inspection program which was developed to satisfy the requirements of Subsection IWE and Subsection IWL with specified modifications and limitations. The program elements and the required documentation must be maintained on site for audit.

(C) * * *

(1) Appendix VIII and the supplements to Appendix VIII to Section XI, Division 1, 1995 Edition with the 1996 Addenda of the ASME *Boiler and Pressure Vessel Code* must be implemented in accordance with the following schedule: Appendix VIII and Supplements 1, 2, 3, and 8--May 22, 2000; Supplements 4 and 6--November 22, 2000; Supplement 11--November 22, 2001; and Supplements 5, 7, and 10--November 22, 2002.

(2) The requirements of Appendix VIII and the supplements to Appendix VIII to Section XI, Division 1, 1995 Edition through the latest editions and addenda of the ASME *Boiler and Pressure Vessel Code* incorporated by reference in 10 CFR 50.55a(b)(2) apply when implementing paragraph IWA-2232 of the edition and addenda of Section XI referenced in the inservice inspection program Code of Record.

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Dated at Rockville, Maryland this ___ day of _____ 2001.

For the U.S. Nuclear Regulatory Commission.

William D. Travers
Executive Director for Operations.