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NL-15-073

June 1, 2015

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
11555 Rockville Pike  
Rockville, MD 20852

**SUBJECT:** Request for Relief Request IP2-ISI-RR-18 Maintaining ISI Related Activities on the 2001 Edition/2003A ASME Section XI Code for Fifth 10-year Inservice Inspection (ISI) Interval  
Indian Point Unit Number 2  
Docket No. 50-247  
License No. DPR-26

**REFERENCES:** 1. NRC Letter to Entergy, Request for Additional Information Regarding Extension of the Containment Type A Leak Rate Testing Frequency to 15 years (TAC NO. MF5382), dated March 17, 2015  
2. Entergy Letter NL-14-128 to NRC Regarding Proposed License Amendment Regarding Extending the Containment Type A Leak Rate Testing Frequency to 15 years, dated December 9, 2014

Dear Sir or Madam:

Pursuant to 10 CFR 50.55a(z)(1), Entergy Nuclear Operations, Inc. (Entergy) requests relief to use the 2001 Edition/2003 Addenda of ASME Section XI for the performance of ISI related activities associated with repair/replacements (R&R), pressure testing (PT), and nondestructive testing (NDE) during the Fifth 10-year Inservice Inspection (ISI) Interval for Indian Point Unit No. 2 (IP2). The Fifth 10-year ISI Interval is scheduled to start June 1, 2016 when IP-2 updates to the (later) 2007 Edition/2008 Addenda of ASME Section XI for performing ISI.

Entergy has developed standardized IWA-4000 repair/replacement, pressure testing, and NDE fleet programs based on a common Edition/Addenda of ASME Section XI. This relief request is essential for Entergy to maintain these standardized programs. When the last Entergy Plant has updated to the 2007 Edition/2008 Addenda of ASME Section XI, the IWA program will be updated to reflect the requirements of the 2007 Edition/2008 Addenda. The proposed duration of this alternative is from June 1, 2016 through December 31, 2017. The fleet consists of Indian Point

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Units 2 and 3, Pilgrim Nuclear Power Station, Palisades Nuclear Plant, James A FitzPatrick Nuclear Power Plant, Arkansas Nuclear One Units 1 and 2, Waterford 3, Grand Gulf Nuclear, and River Bend Station.

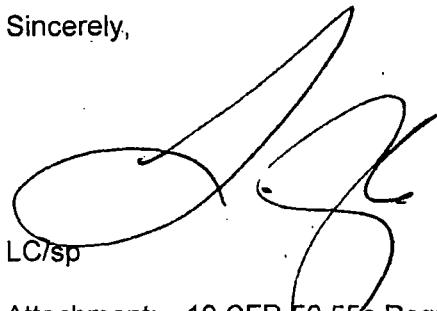
Entergy Nuclear Operations, Inc. (Entergy) is submitting, enclosed, Relief Request No. 18 (IP2-ISI-RR-18) for Indian Point Unit No. 2 (IP2). This relief request is for the Fifth 10-year Inservice Inspection (ISI) Interval made in accordance with 10 CFR 50.55a(z)(1)

*"Alternatives to codes and standards requirements. Alternatives to the requirements of paragraphs (b) through (h) of this section or portions thereof may be used when authorized by the Director, Office of Nuclear Reactor Regulation, or Director, Office of New Reactors, as appropriate. A proposed alternative must be submitted and authorized prior to implementation. The applicant or licensee must demonstrate that:*

(1) *Acceptable level of quality and safety. The proposed alternative would provide an acceptable level of quality and safety;"*

If you have any questions or require additional information, please contact Mr. Robert Walpole, Manager, Regulatory Assurance at (914) 254-6710.

Sincerely,



LC/sp

Attachment: 10 CFR 50.55a Request No. IP2-ISI-RR-18 Proposed Alternative in Accordance With 10 CFR 50.55a(z)(1)

cc: Mr. Douglas Pickett, Senior Project Manager, NRC NRR DORL  
Mr. Daniel H. Dorman, Regional Administrator, NRC Region 1  
NRC Resident Inspectors Office  
Mr. Francis J. Murray, Jr., President and CEO, NYSERDA  
Ms. Bridget Frymire, New York State Dept. of Public Service)

ATTACHMENT TO NL-15-073

10 CFR 50.55A REQUEST NO. IP2-ISI-RR-18  
PROPOSED ALTERNATIVE IN ACCORDANCE  
WITH 10 CFR 50.55a(z)(1)

ENTERGY NUCLEAR OPERATIONS, INC.  
INDIAN POINT NUCLEAR GENERATING UNIT NO. 2  
DOCKET NO. 50-247

**Indian Point Unit 2 Nuclear Plant  
10 CFR 50.55a Request No. IP2-ISI-RR-18  
Proposed Alternative in Accordance With 10 CFR 50.55a(z)(1)  
Maintaining ISI Related Activities on the 2001E/2003A ASME Section XI Code**

**1. ASME Code Component(s) Affected**

Code Class: ASME Code Class 1, 2, 3, MC, and CC components and component supports

Component Numbers: Various

Code References: ASME Section XI, 2007 Edition with 2008 Addenda  
ASME Section XI, 2001 Edition with 2003 Addenda

Examination Category: Various

Item Number(s): Various

Unit/Inspection Interval Indian Point Unit 2 / Fifth 10-Year ISI Interval  
June 1, 2016 – May31, 2026

**2. Applicable ASME Code Requirements**

Entergy is required to update the Indian Point Unit 2 Nuclear Plant (IP2) 120-month Inservice Inspection (ISI) and Containment Inservice Inspection (CII) programs to the latest Edition and Addenda of the ASME Boiler and Pressure Vessel (BPV) Code, Section XI, as approved by the NRC in 10 CFR 50.55a(a)(1)(ii), for the Fifth 10-Year ISI Interval.

Pursuant to 10 CFR 50.55a(b)(2), *ASME Boiler and Pressure Vessel Code Section XI*. As used in this section, references to Section XI refer to Section XI, Division 1, of the ASME Boiler and Pressure Vessel Code, and include the 1970 Edition through the 1976 Winter Addenda and the 1977 Edition through the 2007 Edition with the 2008 Addenda.

Pursuant to 10 CFR 50.55a(g)(4), *Inservice inspection standards requirement for operating plants*. Throughout the service life of a boiling or pressurized water-cooled nuclear power facility, components (including supports) that are classified as ASME Code Class 1, Class 2 or Class 3 must meet the requirements, except design and access provisions and preservice examination requirements, set forth in Section XI of editions and addenda of the ASME BPV Code (or ASME OM Code for snubber examination and testing) that become effective subsequent to editions specified in paragraphs (g)(2) and (g)(3) of this section and that are incorporated by reference in paragraph (a)(1)(ii) or (iv) for snubber examination and testing of this section, to the extent practical within the limitations of design, geometry and materials of construction of the components. Components that are classified as Class MC pressure retaining components and their integral attachments, and components that are classified as Class CC pressure retaining components and their integral attachments, must meet the requirements, except design and access provisions and preservice examination requirements, set forth in Section XI of the ASME BPV Code and addenda that are incorporated by reference in paragraph (a)(1)(ii) of this section, subject to the condition listed in paragraph (b)(2)(vi) of this section and the conditions listed in paragraphs (b)(2)(viii) and

(ix) of this section, to the extent practical within the limitation of design, geometry, and materials of construction of the components.

Pursuant to 10 CFR 50.55a(g)(4)(ii), *Applicable ISI Code: Successive 120-month intervals*. Inservice examination of components and system pressure tests conducted during successive 120-month inspection intervals must comply with the requirements of the latest edition and addenda of the Code incorporated by reference in paragraph (a) of this section 12 months before the start of the 120-month inspection interval (or the optional ASME Code Cases listed in NRC Regulatory Guide 1.147, Revision 17, when using Section XI, or Regulatory Guide 1.192, Revision 1, when using the OM Code, that are incorporated by reference in paragraphs (a)(3)(ii) and (iii) of this section), subject to the conditions listed in paragraph (b) of this section. However, a licensee whose inservice inspection interval commences during the 12 through 18-month period after July 21, 2011 may delay the update of their Appendix VIII program by up to 18 months after July 21, 2011.

### 3. Reason for Request

Entergy proposes an alternative to the requirements of 10 CFR 50.55a(a)(1)(ii), 10 CFR 50.55a(g)(4) and 10 CFR 50.55a(g)(4)(ii); specifically, to update the IP2 ISI/CII programs to the 2007 Edition with the 2008 Addenda while maintaining and performing ISI related activities such as Repair/Replacements (R/R), Pressure Testing (PT), and Nondestructive Examination (NDE) to the current ASME Section XI 2001 Edition through the 2003 Addenda requirements.

### 4. Proposed Alternative and Basis for Use

#### Proposed Alternative

Pursuant to 10 CFR 50.55a(z)(1), Entergy requests authorization to maintain the current use of 2001 Edition through the 2003 Addenda for the performance of R/R, PT and NDE subject to the conditions contained in 10 CFR 50.55a. In implementing this proposal, Entergy will continue to comply with all NRC conditions, limitations, and restrictions as specified in 10 CFR 50.55a for 2001 Edition with 2003 Addenda of ASME Section XI Code. Code Cases will also be adopted per RG 1.147 for those cases applicable to the 2001 Edition through the 2003 Addenda. Additionally, IP2 requests that the 10 CFR 50.55a relief requests listed below and authorized for use during the Fourth Interval in accordance with 10 CFR 50.55a(a)(3)(i) or (ii), which is now 10 CFR 50.55a(z)(1) or (2), be extended for use per this request into the Fifth Interval for the time duration coinciding with the planned use of the 2001 Edition through the 2003 Addenda of Section XI. The requests to be extended are:

- Request RR-04, authorized on September 26, 2007 (TAC NO. MD4699) and associated with Supplement 10 to Appendix VIII for examination of dissimilar metal (DM) welds. [ADAMS Accession NO. ML072220295]
- Request RR-07, authorized February 14, 2008 (TAC NO. MD4702) and associated with Reactor Vessel Head weld repairs. [ADAMS Accession NO. ML080280033]
- Request IP2-ISI-RR-12, authorized April 25, 2011 (TAC NO. ME5180) and associated with the use of PDI qualified procedures, personnel, and equipment for Non-Appendix VIII reactor vessel shell to flange weld inspection. [ADAMS Accession NO. ML11109A016]

- Request IP2-ISI-RR-15, authorized December 3, 2012 (TAC NO. ME8753) and associated with an alternative weld reference system. [ADAMS Accession NO. ML12334A317]

In accordance with 10 CFR 50.55a(g)(4)(ii), the Code of Record for the ISI/CII programs will be the 2007 Edition with 2008 Addenda with the selection, planning and scheduling of ISI/CII examinations and tests as defined in IWB-, IWC-, IWD-, IWE-, IWF-, and IWL-2500 or NRC authorized ISI alternatives being performed accordingly.

Entergy has proposed specific details in Attachment 1 regarding the use of or reference to "Articles" (e.g. IWA-4000, IWA-5000) from every "Subsection" (e.g. IWA, IWB, etc) of the 2001 Edition with 2003 Addenda for the performance of R/R, PT and NDE activities and the 2007 Edition through 2008 Addenda for the ISI program selection, planning and scheduling of ISI examinations and tests.

#### Basis for Use

On June 1, 2016, the IP2 ISI/CII programs will be updated to the Fifth Ten Year Interval in accordance with 10 CFR 50.55a(g)(4)(ii). While the ISI/CII related activities such as R/R, PT and NDE would normally be included as part of the update to the 2007 Edition and 2008 Addenda of ASME Section XI, the proposed alternative is to maintain these ISI/CII related activities in compliance with ASME Section XI, 2001 Edition through the 2003 Addenda, while conforming to all conditions of 10 CFR 50.55a.

Entergy has standardized the performance of ISI/CII related activities such as R/R, PT and NDE across its entire nuclear fleet to the ASME Section XI, 2001 Edition through the 2003 Addenda. While ISI/CII program plans are controlled on a site-by-site basis, the R/R, PT and NDE programs are administered under a corporate set of procedures. With Entergy being required to update the IP2 ISI, R/R, PT and NDE program activities to the 2007 Edition with the 2008 Addenda in accordance with 10 CFR 50.55a(a)(1)(ii), this will require establishing and maintaining two different programs; one for Indian Point Unit 2 and one for the other nine (9) Entergy nuclear plants.

Although the 2007 Edition through the 2008 Addenda made changes to Section XI, these changes were not necessary to ensure an acceptable level of quality and safety. Nor were these changes made to address a deficiency in the Code that adversely impacted safety. In the latest revision to 10 CFR 50.55a, the NRC did not mandate that other plants that have adopted earlier edition and addenda follow any of the new paragraphs in the 2007 Edition through the 2008 Addenda.

Entergy has process controls in place to track and monitor the implementation of the dual Code Editions/Addenda of ASME Section XI. These process controls, summarized below, need only be updated as they apply to the selection, planning and scheduling of ISI examinations and tests.

- **Indian Point Unit 2 Inservice Inspection Plan:** This document implements the ASME Section XI inservice inspection program at Indian Point Unit 2. It ensures that the selection, planning and scheduling of ISI/CII examinations and tests are performed in accordance with 2007 Edition/2008 Addenda of ASME Section XI as delineated in Attachment 1.

- **Administrative and Program Procedures:** These procedures establish requirements for implementing the ASME Section XI R/R, PT and NDE programs. These procedures also ensure that program requirements comply with applicable requirements in the 2001 Edition (Appendix VIII<sup>1</sup> ultrasonic examination qualifications) and the 2001 Edition/2003 Addenda of ASME Section XI as described in Table 1 for the performance of R/R, PT and NDE activities.

Entergy believes that its existing processes will ensure that the use of dual Code Editions/Addenda at Indian Point Unit 2 are appropriately managed, tracked, and controlled.

Entergy believes that maintaining the IP2 ISI related activities to the 2001 Edition through the 2003 Addenda standard with the other Entergy plants provides an acceptable level of quality and safety at Indian Point Unit 2. This allows leveraging the knowledge from the nine other Entergy nuclear plants of ISI/CII related activities to provide Indian Point Unit 2 with a wealth of experience to draw on as well as minimizing the time spent on developing and maintaining procedures that are different from the rest of the Entergy fleet. Therefore, this proposed alternative provides an acceptable level of quality and safety, commensurate with the provisions of 10 CFR 50.55a(z)(1).

## 5. Duration of Proposed Alternative

The Fifth 10-Year ISI Interval at Indian Point Unit 2 begins on June 1, 2016 and ends on May 31, 2026. However, with seven other Entergy nuclear operating plants starting new 10-year ISI inspection intervals between June 2015 and December 2017, Entergy proposes to maintain standardization of the corporate administered R/R, PT and NDE programs across its entire nuclear fleet at the 2001 Edition through 2003 Addenda through December 2017. Prior to December 31, 2017, Entergy will request NRC approval to update these ASME Section XI activities to the latest ASME Code edition incorporated by reference in 10 CFR 50.55a for the entire fleet. Therefore, the proposed duration of this alternative is from June 1, 2016 through December 31, 2017.

## 6. Precedents

This request is similar in nature to the following requests for alternatives, in that, Entergy nuclear plants were granted use of 2001 Edition through 2003 Addenda for ISI related activities such as R/R, PT and NDE with the Code of Record for the ISI program being a different Code edition.

- "Relief Request ISI-2008-1, Use of Later Edition and Addenda of ASME Code, Section XI for Repair and Replacement, Pressure Testing, and Non-Destructive Testing Activities - Vermont Yankee Nuclear Power Station (TAC NO. ME0239)," dated April 30, 2009 [ADAMS Accession No. ML091170111]
- "Relief Request ISI-2008-1, Use of Later edition and addenda of ASME Code, section XI for repair and replacement, pressure testing, and destructive testing activities - Pilgrim nuclear power station (TAC NO. ME0238)," dated April 30, 2009 [ADAMS Accession No. ML091130456]

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<sup>1</sup> Examinations performed using Code Case N-729-1 will be in accordance with Appendix VIII of the 2004 Edition of Section XI pursuant to 10 CFR 50.55a(g)(6)(ii)(D)(4).

- “Arkansas Nuclear One, Unit 2 - ISI-2007-1, Request to Use a Later Edition and Addenda of American Society of Mechanical Engineers Boiler and Pressure Vessel Code (TAC NO. MD6603,” dated December 20, 2007 [ADAMS Accession No. ML073390442]
- “Vermont Yankee Relief Request ISI-05, Maintaining Certain ISI Related Activities on Current 2001 Edition through 2003 Addenda of ASME Code Section XI,” dated March 27, 2013 [ADAMS Accession No. ML13092A204], supplemented June 12, 2013 [ADAMS Accession No. ML13092A204], and August 7, 2013 [ADAMS Accession No. ML13224A243] and approved August 22, 2013 (TAC NO. MF1194), [ADAMS Accession No. ML13228A197]



**Table 1**  
**PROPOSED ASME SECTION XI CODE OF RECORD FOR INDIAN POINT UNIT 2**

ASME Section XI Code Provision		ASME Section XI Code Edition/Addenda <sup>1</sup>		
Sub-section	Article	2001 Edition/ No Addenda	2001 Edition/ 2003 Addenda	2007 Edition/ 2008 Addenda
IWA-General Requirements	IWA-1000		X	
	IWA-2000		X <sup>2</sup>	X <sup>2</sup>
	IWA-3000		X	
	IWA-4000		X <sup>3</sup>	
	IWA-5000		X	
	IWA-6000		X	
	IWA-9000		X	
IWB-Req'ts for Class 1 Components	IWB-1000			X <sup>4</sup>
	IWB-2000			X <sup>4</sup>
	IWB-3000		X <sup>5</sup>	
	IWB-5000		X	
IWC-Req'ts for Class 2 Components	IWC-1000			X <sup>4</sup>
	IWC-2000			X <sup>4</sup>
	IWC-3000		X	
	IWC-5000		X	
IWD-Req'ts for Class 3 Components	IWD-1000			X <sup>4</sup>
	IWD-2000			X <sup>4</sup>
	IWD-3000		X	
	IWD-5000		X	
IWE-Req'ts for Class MC Components	IWE-1000			X <sup>4</sup>
	IWE-2000			X <sup>4</sup>
	IWE-3000		X	
	IWE-5000		X	
IWF-Req'ts for Class 1, 2, 3, and MC Supports	IWF-1000			X <sup>4</sup>
	IWF-2000			X <sup>4</sup>
	IWF-3000		X	
	IWF-5000		X <sup>6</sup>	
IWL-Req'ts for Class CC Components	IWL-1000			X <sup>4</sup>
	IWL-2000			X <sup>4</sup>
	IWL-3000		X	
	IWL-4000		X	
	IWL-5000		X	
Mandatory Appendices	I		X	
	II		X	
	III		X	
	IV		X	
	V		X	
	VI		X	
	VII		X	

	VIII	X		
	IX		X	
	X			X <sup>4</sup>

**Notes:**

- (1) Entergy will also comply with all NRC conditions, limitations, and restrictions specified in 10 CFR 50.55a as they apply to the specific edition and addenda referenced.
- (2) IP2 is proposing to use IWA-2100, 2200, and 2300 from the 2001 Edition/2003 Addenda for requirements applicable to authorized inspection, examination methods, qualification of NDE personnel and the weld reference system. However, IP2 will use the 2007 Edition/2008 Addenda when using IWA-2400, 2500, and 2600 for the selection, planning and scheduling of ISI examinations and tests.
- (3) As exceptions to IWA-4000 of the 2001 Edition/2003 Addenda, IP2 will comply with the alternatives listed below to comply with NRC conditions in 10 CFR.50.55a:
  - The NDE provision in IWA-4540(a)(2) of the 2001 Edition/2002 Addenda will be applied when performing system leakage tests after repair/replacement activities involving welding or brazing to comply with 10 CFR 50.55a(b)(2)(xx)(B).
  - Pressure testing of mechanical joints of Class 1, 2, and 3 items will be performed in accordance with IWA-4540(c) of the 1998 Edition/No Addenda to comply with 10 CFR 50.55a(b)(2)(xxvi).
- (4) The selection, planning, and scheduling of ISI examinations/tests will comply with these ASME Section XI articles (e.g. IWB-1000 and 2000) from the 2007 Edition/2008 Addenda or applicable NRC approved alternatives that are specified in the IP2 ISI/CII Program Plans.
- (5) Entergy will not apply the IWB-3514 acceptance standards of the 2001 Edition/2003 Addenda to planar surface flaws in UNS N06600, N06682, or W86182 materials or austenitic stainless steels which are subject to stress corrosion cracking. Therefore, if a flaw is found in an ASME Class 1 austenitic stainless steel weld, Entergy would either evaluate the acceptability of the flaw in accordance with IWB-3600 or correct the flawed condition by performing an approved ASME Section XI repair/replacement activity.
- (6) As required by 10 CFR 50.55a(b)(3)(v), snubber pre-service and in-service inspection and testing requirements are implemented in subsection ISTD of the Operation and Maintenance (OM) Code, 2004 Edition through 2006 Addenda in its entirety.