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CNRO-2016-00023

December 1, 2016

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

SUBJECT: Request EN-ISI-16-1: Use of Later Edition/Addenda of ASME Section XI Code for ISI Related Activities

Arkansas Nuclear One, Unit 2 (ANO-2)
Docket No. 50-368
License No. NPF-6

Indian Point Nuclear Generating Station, Unit 3 (IP-3)
Docket No. 50-286
License No. DPR-64

Dear Sir or Madam:

Pursuant to 10 CFR 50.55a(g)(4)(iv), Entergy Operations, Inc. and Entergy Nuclear Operations, Inc. (hereafter referred to collectively as "Entergy") request NRC permission to use the 2007 Edition/2008 Addenda of American Society of Mechanical Engineers (ASME) Section XI for the performance of Inservice Inspection (ISI) related activities associated with Entergy's repair/replacement (R&R), pressure testing (PT), and nondestructive examination (NDE) programs during the Fourth 10-Year ISI Intervals for ANO-2 and IP-3. The NRC has approved these later editions and addenda of the ASME Section XI Code as documented in 10 CFR 50.55a(1)(ii).

Entergy has developed standardized R&R, PT, and NDE programs that are based on a common Edition/Addenda of ASME Section XI. Entergy is seeking approval of Request EN-ISI-16-1 so that it can maintain standardized R&R, PT, and NDE programs across its nuclear fleet. This request uses the guidance provided in NRC Regulatory Issue Summary 2004-16, *Use of Later Editions and Addenda to ASME Code Section XI for Repair/Replacement Activities*.

Entergy requests approval of Request EN-ISI-16-1 on or before November 30, 2017. If you have any questions, please contact Mr. Anders Eng at (914) 272-3523.

This letter contains no commitments.

Very truly yours,

A handwritten signature in black ink, appearing to be "BSF/ghd/aye", with a long horizontal flourish extending to the right.

BSF/ghd/aye

Attachments: Request EN-ISI-16-1

cc: C. Bakken (ECH)
J. Ventosa (WPO)
D. Jacobs (ECH)
M. Woodby (ECH)
R. Anderson (ANO)
A. Vitale (IPEC)
J. Davis (ECH)
G. H. Davant (ECH)
J.W. Weicks (ECH)
All above w/o attachments
NRC Region I Administrator
NRC Region IV Administrator
NRC Project Manager (ANO)
NRC Project Manager (IP-3)
NRC Senior Resident Inspector (ANO)
NRC Senior Resident Inspector (IP-3)

ATTACHMENT

CNRO-2016-00023

REQUEST EN-ISI-16-1

REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(4)(iv)
FOR USE OF LATER ASME SECTION XI CODE EDITION AND ADDENDA

REQUEST EN-ISI-16-1

1. American Society of Mechanical Engineers (ASME) Code Component(s) Affected

All Class 1, 2, 3, MC, and CC components, component supports, and welds located in the ASME Section XI boundaries at Arkansas Nuclear One, Unit 2 (ANO-2) and Indian Point, Unit 3 (IP-3).

2. Applicable Code Edition and Addenda

ANO-2 and IP-3 are in their fourth (4th) Inservice Inspection (ISI) Intervals and perform ISI activities in accordance with 2001 Edition/2003 Addenda as shown in the table below. The ISI interval end dates for both nuclear plants are also provided in the table.

Plant	ISI Interval	ASME Section XI Edition/Addenda	Interval Start	Interval End ¹
ANO-2	4	2001 Edition/2003 Addenda	3/26/10	3/25/20
IP-3	4	2001 Edition/2003 Addenda	7/21/09	7/20/19

Notes

1. These are the presently scheduled ISI interval end dates for ANO-2 and IP-3. However, adjustments to these dates could be made as allowed by IWA-2430 of ASME Section XI.

3. Proposed Subsequent Code Edition and Addenda (or Portion)

A. Background

All Entergy plants, including ANO-2 and IP-3, perform ISI-related activities such as repair/replacements (R&R), pressure testing (PT), and nondestructive examination (NDE) in accordance with standardized fleet programs. These standardized programs are based on a common Edition/Addenda of ASME Section XI which, at present, is the 2001 Edition/ 2003 Addenda. While ISI Program Plans are controlled in site-specific documents, the R&R, PT, and NDE programs are controlled in common corporate program procedures that are implemented across the entire nuclear fleet.

On December 1, 2017, Entergy plans to update its Code of Record for the R&R, PT, and NDE programs from the 2001 Edition/2003 Addenda to the 2007 Edition/2008 Addenda. However, as shown in Section 2, the ISI intervals for ANO-2 and IP-3 are not presently scheduled to end until March 25, 2020 and July 20, 2019, respectively. If ANO-2 and IP-3 continue performing R&R, PT, and NDE activities in accordance with their current Codes of Record after Entergy implements its update on December 1, 2017, then Entergy will be required to maintain two separate R&R, PT, and NDE programs: one set of programs for ANO-2 and IP-3 and another set of programs for the balance of the Entergy nuclear fleet. Furthermore, ANO and IP personnel will have to implement two versions of each of these programs at their sites.

B. Proposed Subsequent Code Edition and Addenda

Pursuant to 10 CFR 50.55a(g)(4)(iv), Entergy requests permission to utilize the 2007 Edition/2008 Addenda of ASME Section XI at ANO-2 and IP-3 for performing ISI-related activities such as R&R, PT, and NDE. In implementing this proposal, Entergy will also comply with all applicable NRC conditions and limitations specified in 10 CFR 50.55a(b) including those specified below. See Enclosure 1 for specific details regarding this proposal.

- 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).

It is important to note that this request does not apply to the selection, planning, or scheduling of ISI examinations and tests as defined in IWB-, IWC-, IWD-, IWE-, IWF-, and IWL-2500 or NRC approved ISI alternatives. Therefore, ISI examinations and tests at ANO-2 and IP-3 will continue to be selected, planned, and scheduled in accordance with their present Code of Record as described in Section 2, above. See Enclosure 1 for specific details regarding this proposal.

C. Managing Use of Dual Code Editions and 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 are summarized below.

- **Site-specific Inservice Inspection Plans:** These documents implement the ASME Section XI Inservice inspection programs at ANO-2 and IP-3. They ensure the selection, planning and scheduling of ISI examinations and tests are performed in accordance with 2001 Edition/2003 Addenda of ASME Section XI as delineated in Enclosure 1.
- **Administrative and Program Procedures:** These procedures establish requirements for implementing the ASME Section XI NDE, PT, and R&R programs. These procedures also ensure program requirements comply with applicable requirements in the 2007 Edition/2008 Addenda of ASME Section XI as described in Enclosure 1.

Therefore, Entergy believes its existing processes will ensure the use of dual Code Editions/Addenda at ANO-2 and IP-3 are appropriately managed, tracked, and controlled.

4. Related Requirements

Entergy is requesting permission to use the 2007 Edition/2008 Addenda of ASME Section XI for performing ISI-related activities such as R&R, PT, and NDE except where otherwise conditioned by the NRC in 10 CFR 50.55a. See Section 3.B, above. In making this request, Entergy will comply with all related requirements in ASME Section XI as described below and delineated in Enclosure 1:

- Entergy has proposed to utilize all "Articles" (e.g. IWA-4000, IWA-5000) from every "Subsection" (e.g. IWA, IWB, etc.) of the 2007 Edition/2008 Addenda that could be used or referenced for the performance of R&R, PT, and NDE activities.
- Entergy has proposed to utilize all "Mandatory Appendices" of the 2007 Edition/2008 Addenda. Mandatory appendices provide supplemental requirements to specific code articles (or paragraphs) in ASME Section XI. It should be noted that the reason Entergy has chosen to use the 2007 Edition/2008 Addenda for all Mandatory Appendices is that these Mandatory Appendices provide supplemental requirements to ASME Code articles and paragraphs that are also being used from the 2007 Edition/2008 Addenda.
- Entergy has proposed to utilize the 2007 Edition/2008 Addenda for Nonmandatory Appendices A through Q. The methodology for using Nonmandatory Appendices from the 2007 Edition/2008 Addenda is as described above for Mandatory Appendices.
- With regard to the performance of ISI examinations and tests, Entergy will continue to select, plan, and schedule these ISI inspection activities, as specified in IWA-, IWB-, IWC-, IWD-, IWE-, and IWF-2500 or NRC approved ISI alternatives, in accordance with the ANO-2 and IP-3 current ISI Program Plans.

5. Duration of Proposed Request

ANO-2 and IP-3 are presently in their fourth 10-Year ISI intervals as shown in Section 2. The duration of this request will be from December 1, 2017 until the end of the fourth ISI interval of ANO-2 and IP-3.

6. Precedents

- A. This request is similar to the following requests which were submitted in accordance with 10 CFR 50.55a(g)(4)(iv), approved by the NRC, and allowed Entergy nuclear plants to use a later Edition/Addenda of ASME Section XI for performing ISI related activities such as NDE, PT, R&R while the ISI Code of Record for these plants was an earlier Edition/Addenda:
 - "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]

- "Relief Request ISI-2008-1, Use of Later Edition and Addenda of ASME Code, Section XI for Repair and Replacement, Pressure Testing, and Nondestructive 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 Nondestructive Testing Activities - Pilgrim Nuclear Power Station (TAC NO. ME0238)," dated April 30, 2009 [ADAMS Accession No. ML091130456]

B. This request is similar to the following relief requests which were submitted in accordance with 10 CFR 50.55a(z)(1) [formerly 10 CFR 50.55a(a)(3)(i)], approved by the NRC, and allowed Entergy nuclear plants to use an earlier Edition/Addenda of ASME Section XI for performing ISI related activities such as NDE, PT, R&R while the ISI Code of Record for these plants was a later Edition/Addenda:

- "Vermont Yankee Nuclear Power Station – Relief Request ISI-05: Fifth 10-Year Inservice Inspection (ISI) Interval – Maintaining Certain ISI Related Activities on Current 2001 Edition Through 2003 Addenda of ASME Code Section XI (TAC NO. MF1194)," dated April 22, 2013 [ADAMS Accession No. ML13228A197]
- "Pilgrim Nuclear Power Station Re: Request for Alternative (PRR)-26, Fifth 10-Year Inservice Inspection Interval (TAC NO. ME5432)," dated June 19, 2015 [ADAMS Accession No. ML15166A401]
- "Palisades Nuclear Plant – Relief Request Number 5-1, Proposed Alternative, Extend the Current ASME Code of Record into the Fifth 10-Year ISI Interval for ISI Related Activities (CAC NO. MF6162)," dated November 25, 2015 [ADAMS Accession No. ML15320A244]
- "Indian Point Nuclear Generating Station, Unit No. 2 – Relief from the Requirements of the ASME Code (CAC NO. MF6319)," dated March 3, 2016 [ADAMS Accession No. ML16053A025]

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REQUEST EN-ISI-16-1

ENCLOSURE 1

PROPOSED ASME SECTION XI CODES OF RECORD FOR ANO-2 AND IP-3

Proposed ASME Section XI Code of Record for ANO-2 and IP-3

Code Provision		ASME Section XI Edition/Addenda ¹	
Sub-section	Article	2001 Edition/2003 Addenda	2007 Edition/2008 Addenda
IWA-General Requirements	IWA-1000		X
	IWA-2000	X ²	X ²
	IWA-3000		X
	IWA-4000		X ³
	IWA-5000		X
	IWA-6000		X
	IWA-9000		X
IWB-Req'ts for Class 1 Comp.	IWB-1000	X ⁴	
	IWB-2000	X ^{4, 11}	
	IWB-3000		X ⁵
	IWB-5000		X ¹¹
IWC-Req'ts for Class 2 Comp.	IWC-1000	X ⁴	
	IWC-2000	X ⁴	
	IWC-3000		X
	IWC-5000		X
IWD-Req'ts for Class 3 Comp.	IWD-1000	X ⁴	
	IWD-2000	X ⁴	
	IWD-3000		X
	IWD-5000		X
IWE-Req'ts for Class MC Comp.	IWE-1000	X ⁴	
	IWE-2000	X ⁴	
	IWE-3000		X
	IWE-5000		X
IWF-Req'ts for Class 1, 2, 3, and MC Supports	IWF-1000	X ⁴	
	IWF-2000	X ⁴	
	IWF-3000		X
	IWF-5000	X ⁶	(7)
IWL-Req'ts for Class CC Comp.	IWL-1000	X ⁴	
	IWL-2000	X ⁴	
	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 ⁸
	IX		X
	X		X

Code Provision		ASME Section XI Edition/Addenda ¹	
Sub-section	Appendix	2001 Edition/2003 Addenda	2007 Edition/2008 Addenda
Nonmandatory Appendices	A		X
	B		X
	C		X
	D		X
	E		X
	F ⁹		
	G		X
	H		X
	I ⁹		
	J		X
	K		X
	L		X
	M		X
	N		X
	O		X
	P		X
	Q		X
	R ¹⁰		

Notes:

- (1) Entergy will 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) Entergy is proposing to use IWA-2100, 2200, and 2300 from the 2007 Edition/2008 Addenda for requirements applicable to authorized inspection, examination methods, and qualification of NDE personnel. However, Entergy will use the 2001 Edition/2003 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 2007 Edition/2008 Addenda, Entergy will utilize the Editions/Addenda specified 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 and tests will comply with these ASME Section XI articles (e.g. IWB-1000 and 2000) from the 2001 Edition/2003 Addenda or applicable NRC approved alternatives specified in the Entergy ISI Program Plans.
- (5) As stipulated in IWB-3514 of the 2007 Edition/2008 Addenda, Entergy will not apply the IWB-3514 acceptance standards to planar surface flaws in UNS N06600, N06082, or W86182 materials which are located in a Pressurized Water Reactor (PWR) environment and subject to stress corrosion cracking. Therefore, if a planar flaw is found in these nickel alloy materials, Entergy will 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. ANO-2 and IP-3 are both PWRs.

- (6) As allowed by 10 CFR 50.55a(b)(3)(v)(A), snubber preservice and inservice examination and testing will be performed in accordance with Subsection ISTD of the ASME Operation and Maintenance (OM) Code using an Edition/Addenda approved by the NRC in 10 CFR 50.55a(a)(1)(iv). In addition, preservice and inservice examination of snubbers will be performed using the VT-3 visual examination method described in IWA-2213.
- (7) Article IWF-5000 was deleted from Subsection IWF in the 2006 Addenda. Therefore, it does not exist in the 2007 Edition/2008 Addenda.
- (8) As an exception, Entergy will comply with the NRC condition in 10 CFR 50.55a(g)(6)(ii)(D)(4). At present, this condition requires that ultrasonic examinations performed in accordance with Code Case N-729-1 comply with the 2004 Edition/No Addenda of Appendix VIII.
- (9) Nonmandatory Appendices F and I do not exist in either the 2001 Edition/2003 Addenda or the 2007 Edition/2008 Addenda of ASME Section XI.
- (10) Nonmandatory Appendix R was added into ASME Section XI in the 2004 Edition/2005 Addenda. Therefore, this appendix is in the 2007 Edition/2008 Addenda but does not exist in the 2001 Edition/2003 Addenda. Referenced in IWB-2500(c) and IWC-2500(c), Nonmandatory Appendix R provides alternative risk-informed inspection requirements for piping welds located in the ASME Section XI boundary. Because Entergy intends to use the 2001 Edition/2003 Addenda of IWB-2000, IWC-2000, and IWD-2000, this nonmandatory appendix will not be used since it is not part of 2001 Edition/2003 Addenda.
- (11) The system leakage tests required for Class 1 pressure retaining components in Table IWB-2500-1, Examination Category B-P, will comply with the boundary requirements of IWB-5222 of the 2007 Edition/2008 Addenda as follows:
- The boundary of the system leakage test performed each refueling outage prior to plant start-up shall comply with IWB-5222(a)
 - The boundary of the system leakage test performed at or near the end of the inspection interval shall comply with IWB-5222(b)