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CNRO-2016-00016

June 2, 2016

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

SUBJECT: Response to RAI Questions and Submittal of Relief Request EN-ISI-15-1 (Updated)

Arkansas Nuclear One, Unit 1
Docket Nos. 50-313
License Nos. DPR-51

Grand Gulf Nuclear Station
Docket No. 50-416
License No. NPF-29

James A. Fitzpatrick Nuclear Power Plant
Docket No. 50-333
License No. DFR-59

Waterford 3 Steam Electric Station
Docket No. 50-382
License No. NPF-38

- REFERENCES:
1. Entergy letter to the NRC, "Relief Request EN-ISI-15-1: Proposed Alternative to Maintain ISI-Related Activities to the 2001 Edition/2003 Addendum of ASME Section XI Code," dated November 20, 2015 (ADAMS Accession No. ML15329A305)
 2. E-mail from Mr. Richard Guzman, Sr. NRC Project Manager, to Mr. Guy Davant, Entergy, "Request for Additional Information: Entergy Fleet EN-ISI-15-1 - Proposed Alternative to Maintain ISI-Related Activities to the 2001E/2003A of ASME Section XI Code (CAC Nos. MF7133 - MF7136)," dated April 26, 2016

Dear Sir or Madam:

Pursuant to 10 CFR 50.55a(z)(1) and via Reference 1, Entergy Operations, Inc. and Entergy Nuclear Operations, Inc. (hereafter referred to collectively as "Entergy") requested NRC approval to use the 2001 Edition/2003 Addenda of 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 testing (NDE) programs during the fourth 10-year ISI Intervals for Grand Gulf Nuclear Station (GGNS) and Waterford 3 Steam Electric Station (WF3), and the fifth 10-year ISI Intervals for Arkansas Nuclear One, Unit 1 (ANO-1) and James A. Fitzpatrick Nuclear Power Plant (JAF).


The NRC subsequently transmitted to Entergy via Reference 2 a Request for Additional Information (RAI). Attachment 1 to this letter provides the specific responses to each RAI question. Certain responses required minor revision or added information to the subject relief request. As

such, Entergy has provided in Attachment 2 an update to Relief Request EN-ISI-15-1, which incorporated the necessary changes. Updated Relief Request EN-ISI-15-1 supersedes the previously submitted relief request in its entirety. Changes are shown by revision bars in the right margins.

Since the submittal of Relief Request EN-ISI-15-1 via Reference 1, Entergy has determined to permanently cease power operations at JAF on January 27, 2017. Entergy provided certification of this decision to the NRC in letter JAFP-16-0045 dated March 16, 2016 (ML16076A391). Because the cessation of operations at JAF will occur less than one month after its scheduled 10-Year update to the fifth ISI Interval, Entergy has decided to extend the JAF fourth ISI Interval to February 3, 2017 as allowed by IWA-2430(d)(1) rather than updating to the fifth ISI Interval on January 1, 2017. As a result, Entergy removes JAF from consideration for Relief Request EN-ISI-15-1. Therefore, responses provided to RAIs in Attachment 1 do not apply to JAF.

If you have any questions, please contact Mr. Guy Davant at (601) 368-5756.

Sincerely,


for Bryan S. Ford

BSF/ghd/aye

Attachments: 1. Response to NRC RAI Regarding Relief Request EN-ISI-15-1
2. Relief Request EN-ISI-15-1 (Updated)

cc: C. Bakken (ECH)
T. G. Mitchell (ECH)
J. Ventosa (WPO)
D. Jacobs (ECH)
M. Woodby (ECH)
J. Browning (ANO)
K. Mulligan (GGNS)
M. Chisum (WF3)
B. Sullivan (JAF)
J. McCann (ECH)
D. Mannai (WPO)
All above w/o attachments

NRC Region I Administrator
NRC Region IV Administrator
NRC Project Manager (ANO)
NRC Project Manager (GGNS)
NRC Project Manager (JAF)
NRC Project Manager (WF3)
NRC Senior Resident Inspector (ANO)
NRC Senior Resident Inspector (GGNS)
NRC Senior Resident Inspector (JAF)
NRC Senior Resident Inspector (WF3)

ATTACHMENT 1

CNRO-2016-00016

RESPONSE TO NRC RAI REGARDING RELIEF REQUEST EN-ISI-15-1

RESPONSE TO NRC RAI REGARDING RELIEF REQUEST EN-ISI-15-1

By letter dated November 20, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML15329A305), Entergy Operations, Inc. and Entergy Nuclear Operations, Inc. ("Entergy", the licensee) requested relief from the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (B&PV Code). Relief Request EN-ISI-15-1 pertains to maintaining inservice inspection (ISI) and containment inservice inspection (CII), repair and replacement (R&R), pressure testing (PT), and nondestructive testing (NDE) programs related activities on the 2001 Edition through 2003 Addenda of the ASME Code, Section XI, during fourth 10-year ISI Intervals for Grand Gulf Nuclear Station (GGNS) and Waterford 3 Steam Electric Station (WF3) and the fifth 10-year ISI Intervals for Arkansas Nuclear One, Unit 1 (ANO-1) and James A. Fitzpatrick Nuclear Power Plant (JAF).

To complete its review, the NRC staff requests the following additional information.

1. The licensee states that the proposed duration of this alternative request is from January 1, 2017 through November 30, 2017. On December 1, 2017, Entergy intends to update the Code of Record (ASME Section XI, 2007 Edition/2008 Addenda) for NDE, PT, and R&R programs to the latest Edition/Addenda of the ASME Section XI approved by the NRC in 10 CFR 50.55a(a)(1)(ii) for the entire fleet. Please discuss which portions of the Section XI ASME Code will be updated. Will only the sections that have currently been requested to be retained at the 2001E/2003A be updated to the latest edition, or will all sections be updated after November 30, 2017?

Entergy Response

Only those ASME Section XI Code Articles (and sections) that are being requested to be retained to the 2001 Edition/2003 Addenda, as shown in the table of Enclosure 1 of the relief request, will be updated on December 1, 2017.

2. Please confirm that from December 1, 2017, all the subject plants will be using NDE, PT and R&R programs based on ASME Section XI, 2007 Edition with 2008 Addenda.

Entergy Response

On December 1, 2017, all of the subject plants will be using NDE, PT and R&R programs that are based on ASME Section XI, 2007 Edition with 2008 Addenda. Section 6 of the relief request has also been revised as clarification.

3. In Footnote (5) on page 2 of the Enclosure 1 to the relief request, the licensee stated, "Entergy will not apply the IWB-3514 acceptance standards of the 2001 Edition/2004 Addenda to planar surface flaws in UNS N06600, N06682, or W86182 materials or austenitic stainless steels..."
 - a. Please clarify whether there is a typographical error in quoting UNS N06682 and provide the correct material type;
 - b. Otherwise, provide a description of UNS N06682 material and state where it is used at ANO-1, GGNS, JAF, and WF3

Entergy Response

The reference to UNS N06682 in footnote (5) on page 2 of Enclosure 1 is incorrect (typographical error) as noted by the NRC. The correct UNS number is N06082. Entergy has revised the relief request to correct this typographical error.

4. Discuss which edition and addenda of the ASME Code, Section XI, will be used for the non-mandatory appendices during January 1, 2017 through November 30, 2017 and provide justification.

Entergy Response

The nonmandatory appendices provide supplemental information, guidance, and alternatives to specific code articles (or paragraphs) in ASME Section XI. In all cases, the nonmandatory appendices are either referenced by or provide reference to the corresponding ASME Section XI Code article. Therefore, the edition/addenda to be used (i.e., 2001 Edition/2003 Addenda or the 2007 Edition/2008 Addenda) with each nonmandatory appendix will be the same as the edition/addenda of the corresponding ASME Section XI Code article as delineated in Enclosure 1 of the relief request. For example, Nonmandatory Appendix D addresses conditioning of Class 1 and 2 piping welds that require nondestructive examination (NDE). Its use is invoked in IWA-2200(b) which specifies NDE surface preparation requirements. Based on the table (and footnote 2) of Enclosure 1 of the relief request, the 2001 Edition/2003 Addenda applies when using IWA-2200. Therefore, 2001 Edition/2003 Addenda also applies when using Nonmandatory Appendix D.

An additional consideration is the approval and incorporation dates of nonmandatory appendices into the ASME Section XI Code. To this point, Nonmandatory Appendices N, O, P, Q, and R are part of the 2007 Edition/2008 Addenda of ASME Section XI but do not exist in the 2001 Edition/2003 Addenda. This situation exists because these nonmandatory appendices were not added into the ASME Section XI Code until either the 2004 Edition (Appendices N, O, P) or 2004 Edition/2005 Addenda (Appendices Q and R). For these cases, the nonmandatory appendices can only be used if they are associated with ASME Section XI Code articles to be used with the 2007 Edition/2008 Addenda as delineated in Enclosure 1 of the relief request. For example, Nonmandatory Appendix Q provides rules for installing austenitic stainless steel weld overlays as an alternative to the weld repair requirements in IWA-4000. [Its use is invoked in IWA-4411(h) of the 2007 Edition/2008 Addenda.] Although the 2001 Edition/2003 Addenda applies when using IWA-4000 based on the table of Enclosure 1 of the relief request, Nonmandatory Appendix Q did not exist in the 2001 Edition/2003 Addenda of ASME Section XI. Therefore, Nonmandatory Appendix Q will not be used under this proposed alternative.

The table below identifies the edition/addenda of each nonmandatory appendix to be used during implementation of this proposed alternative.

Nonmandatory Appendix	2001 Edit./ 2003 Add.	2007 Edit./ 2008 Add.
A - Analysis of Flaws	X	
B - Forms	X	
C - Evaluation of Flaws in Piping	X	
D - Conditioning of Classes 1 and 2 Piping Welds Which Require Examination	X	
E - Evaluation of Unintended Operating Events	X	
F - This appendix does not exist in ASME Section XI Code	-	-
G - Fracture Toughness Criteria for Protection Against Failure	X	
H - Evaluation Procedures for Flaws in Piping Based on use of a Failure Assessment Diag.	X	
I - This appendix does not exist in ASME Section XI Code	-	-
J - Guide to Plant Maintenance Activities and Section XI Repair/Replacement Activities	X	
K - Assessment of Reactor Vessels with Low Upper Shelf Charpy Impact Energy Levels	X	
L - Operating Plant Fatigue Assessment	X	
M - Applying Mathematical Modeling to Ultrasonic Exam. of Pressure Retaining Comps.	X	
N - Written Practice Development for Qualification and Certification of NDE Personnel	Not used ¹	Not used ¹
O - Evaluation of Flaws in PWR Reactor Vessel Upper Head Penetration Nozzles	Not used ²	Not used ²
P - Guidance for Use of U.S. Customary and SI Units in ASME B&PVI Code	Not used ³	Not used ³
Q - Weld Overlay Repair of Classes 1, 2, and 3 Austenitic SST Piping Weldments	Not used ⁴	Not used ⁴
R - Risk-Informed Inspection Requirements for Piping		X

Notes:

1. Nonmandatory Appendix N was added into the ASME Section XI Code in the 2004 Edition and provides supplemental information that may be used in accordance with IWA-2300. Because Entergy intends to use the 2001 Edition/2003 Addenda of IWA-2300 as shown in the table of Enclosure 1 of the relief request, this nonmandatory appendix will not be used since it is not part of 2001 Edition/2003 Addenda.
2. Nonmandatory Appendix O was added into the ASME Section XI Code in the 2004 Edition and may be used in accordance with IWB-3660. Because Entergy intends to use the 2001 Edition/2003 Addenda of IWB-3660 as shown in the table of Enclosure 1 of the relief request, this nonmandatory appendix will not be used since it is not part of 2001 Edition/2003 Addenda.
3. Nonmandatory Appendix P was added into the ASME Section XI Code in the 2004 Edition and may be used in accordance with IWA-1700. Because Entergy intends to use the 2001 Edition/2003 Addenda of IWA-1700 as shown in the table of Enclosure 1 of the relief request, this nonmandatory appendix will not be used since it is not part of 2001 Edition/2003 Addenda.
4. Nonmandatory Appendix Q was added into the ASME Section XI Code in the 2004 Edition/2005 Addenda and may be used as invoked in IWA-4000. Because Entergy intends to use the 2001 Edition/2003 Addenda of IWA-4000, this nonmandatory appendix will not be used since it is not part of 2001 Edition/2003 Addenda.

Finally, due to the cessation of power operations at JAF, the period during which the 2001 Edition/2003 Addenda is to be used is May 31, 2017, rather than January 1, 2017, through November 30, 2017.

5. Footnote (6) on page 2 of the Enclosure 1 to the relief request EN-ISI-15-1 states that, "...snubber preservice and inservice examination and testing will be performed with Subsection ISTD of the ASME Operation and Maintenance (OM) Code, 2004 Edition/2006 Addenda..." For snubber inservice examination and testing, 10 CFR 50.55a(b)(v) allows the use of ASME OM Code in lieu of the ASME Section XI. Whereas, the snubbers repair and replacements are still under ASME Section XI. Please provide: (1) the Edition and Addenda of the ASME Section XI, which will be used for repair and replacement of snubber at various plants (ANO-1, GGNS, JAF, and WF3); and (2) the ASME OM Code or ASME Section XI with edition and addenda which are being currently used for snubber examination and testing at various plants (ANO-1, GGNS, JAF, and WF3).

Entergy Response

- (1) *The 2001 Edition/2003 Addenda of ASME Section XI will be used to perform R&R activities of snubbers through November 30, 2017. On December 1, 2017, the ASME Section XI Code of Record for the R&R, PT, and NDE programs will be updated to the 2007 Edition/2008 Addenda. Therefore, effective December 1, 2017, repair and replacement of snubbers at ANO-1, GGNS, and WF3 will be performed in accordance with the 2007 Edition/2008 Addenda.*
 - (2) *The 2001 Edition/2003 Addenda of the ASME Section XI Code is currently being used at ANO-1, GGNS, and WF3 for snubber examination and testing. However, as allowed in 10 CFR 50.55a(b)(3)(v)(A), the 2001 Edition/2003 Addenda of the ASME OM Code (Subsection ISTD) is also being used instead of 1987 Edition/1988 Addenda of the ASME/ANSI OM Code (Part 4).*
6. Footnote (9) on page 2 of the Enclosure 1 states that IWF-5000 was deleted from Subsection IWF in the 2006 Addenda of ASME Section. See RAI 5 above and provide a response accordingly.

Entergy Response

Currently, ANO-1, GGNS, and WF3 perform ASME Section XI inservice inspection activities in accordance with the 2001 Edition/2003 Addenda. In this Edition/Addenda, snubber inservice inspections are specified in IWF-5000. According to IWF-5200(a) and (b) and IWF-5300(a) and (b), preservice/ inservice examination and testing of snubbers shall be performed in accordance with the 1987 Edition/1988 Addenda of the ASME/ANSI OM Code (Part 4). However, as allowed by 10 CFR 50.55a(b)(3)(v)(A), Owners may alternatively perform preservice/ inservice examination and testing of snubbers in accordance with 1995 Edition or any later Edition/Addenda through the 2004 Edition/2006 Addenda of the ASME OM Code (Subsection ISTD) provided preservice/in-service examinations are performed using the VT-3 visual examination method as described in IWA-2213. In implementing this alternative, ANO-1, GGNS, and WF3 use the 2001 Edition/2003 Addenda of the ASME OM Code (Subsection ISTD) and perform snubber preservice/in-service examinations using the VT-3 visual examination method as described in IWA-2213.

Between May 31, 2017 and July 1, 2017, ANO-1, GGNS, and WF3 will update to the 2007 Edition/2008 Addenda of ASME Section XI as shown in the relief request. IWF-5000 does not exist in this Edition/Addenda because ASME deleted all snubber preservice/in-service examination and testing requirements from the ASME Section XI Code in the 2004 Edition/2006 Addenda. Consistent with this change, 10 CFR 50.55a(b)(3)(v)(B) includes the following NRC condition:

“Licensees must comply with the provisions for examining and testing snubbers in Subsection ISTD of the ASME OM Code... when using the 2006 Addenda and later editions and addenda of Section XI of the ASME B&PV Code.”

- For the first bullet of Footnote (8) on page 2 of Enclosure 1, please clarify whether there is a typographical error in quoting the regulation 10 CFR 50.55a(xxiv) instead of 10 CFR 50.55a(b)(2)(xxiv).

Entergy Response

The reference cited by the NRC in Footnote (8) on page 2 of Enclosure 1 contains a typographical error. The correct reference is 10 CFR 50.55a(b)(2)(xxiv). Entergy has revised the relief request to correct this typographical error.

- In the Attachment to the relief request on page 1, the table specifies various sections of Article IWL for plants ANO-1, GGNS, JAF, and WF3. These plants are either PWRs or BWRs. Please specify which plants will be using IWL for concrete examination.

Entergy Response

The table below identifies which plants will be using IWL for concrete examination.

<i>Entergy Plant</i>	<i>Reactor Type</i>	<i>Is IWL Applicable for Concrete Examination?</i>
<i>ANO-1</i>	<i>PWR</i>	<i>Yes</i>
<i>GGNS</i>	<i>BWR</i>	<i>Yes</i>
<i>WF3</i>	<i>PWR</i>	<i>No</i>

- Section 5 of the submitted relief request provides the proposed duration of this alternative for ANO-1, GGNS, JAF, and WF3 is from the start date of the new 10-year ISI interval for each plant through November 30, 2017 as shown below:

Plant	ISI Interval	Duration of Relief Request		ISI Interval End Date
		ISI Interval Start Date	ISI Interval End Date	
ANO-1	5th	5/31/2017	11/30/2017	5/30/27
GGNS	4th	6/2/2017	11/30/2017	6/1/27
JAF	5th	1/1/2017	11/30/2017	12/31/26
WF3	4th	7/1/2017	11/30/2017	6/30/27

As shown in the above table, Entergy requested to extend the use of the 2001 edition through 2003 addenda beyond the current 10-year ISI intervals at various Entergy plants (ANO-1, GGNS, JAF, and WF3) up to November 30, 2017. Please explain how previously

NRC approved relief requests for the previous 10-year ISI intervals at these Entergy plants will be addressed for the extended period up to November 30, 2017.

Entergy Response

Relief requests previously approved by the NRC for the 4th interval at ANO-1 and 3rd intervals at GGNS and WF3 are only applicable to those intervals and expire on the end dates of those intervals unless explicitly approved by the NRC for use in subsequent intervals. If these relief requests are required for the upcoming 5th interval at ANO-1 and 4th intervals at GGNS and WF3, then these relief requests must be resubmitted to the NRC for approval in accordance with 10 CFR 50.55a.

10. In a letter dated November 26, 2014 (ADAMS No. ML14342B001), Entergy submitted a similar relief request in PRR-26 for Pilgrim Nuclear Power Station. In this request (PRR-26), Section 5, "Duration of Proposed Alternative," it states, in part, that "Entergy proposes to maintain standardization of the corporate administered R&R, PT, NDE programs across its entire nuclear fleet at 2001 Edition through 2003 Addenda through December 2017." However, in the November 20, 2015, relief request EN-ISI-15-1, Section 6, "Duration of Proposed Alternative," it states, in part, that Entergy proposes to maintain standardization of the of its corporately administered NDE, PT and R&R programs across its entire nuclear fleet at 2001 Edition through 2003 Addenda through November 2017.

Please explain the inconsistency between the stated November 2017 and December 2017 dates. If needed, please make appropriate changes.

Entergy Response

Relief Request PRR-26 for Pilgrim Nuclear Station was submitted to the NRC in November 2014. When submitted, Entergy planned to update the code bases of its R&R, PT, and NDE programs during the latter part of 2017 but had not determined the exact date. In fact, the exact date - December 1, 2017 (effective date) - was not finalized until July 2015. For these reasons, Entergy stated the following in Section 5 of relief request PRR-26 regarding duration:

"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 CFR50.55a for the entire fleet. Therefore, the proposed duration of this alternative is from July 1, 2015 through December 31, 2017."

The intent of the above paragraph in PRR-26 was to request NRC approval of this proposed alternative for Pilgrim Nuclear Station through December 31, 2017 knowing that Entergy planned to update the code bases for its R&R, PT, and NDE programs sometime prior to December 31, 2017. However, when this relief request, EN-ISI-15-1, was submitted to the NRC in November 2015, Entergy had already determined that this update would occur on December 1, 2017. Therefore, as specified in Section 6 of EN-ISI-15-1, the duration of the proposed alternative is "from the start date of the new 10-Year ISI interval for each plant through November 30, 2017".

ATTACHMENT 2

CNRO-2016-00016

RELIEF REQUEST EN-ISI-15-1 (Updated)

RELIEF REQUEST EN-ISI-15-1 (Updated)

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 1 (ANO-1), Grand Gulf Nuclear Station (GGNS), and Waterford 3 Steam Electric Station (WF3).

2. Applicable Code Edition and Addenda

The table below identifies the Edition/Addenda of ASME Section XI applicable to the 10-Year ISI intervals for which this relief request applies. As shown in the table, the new ISI intervals at ANO-1, GGNS, and WF3 begin on various dates throughout 2017.

Plant	ISI Interval	ASME Section XI Edition/Addenda^{1,2}	Interval Start	Interval End
ANO-1	5	2007 Edition/2008 Addenda	5/31/17	5/30/27
GGNS	4	2007 Edition/2008 Addenda	6/2/17	6/1/27
WF3	4	2007 Edition/2008 Addenda	7/1/17	6/30/27

Note:

- 1) ANO-1, GGNS, and WF3 will update to the 2007 Edition/2008 Addenda, unless otherwise required by the NRC in 10 CFR 50.55a(a), when these plants update their 10-Year ISI Programs.
- 2) All Entergy plants, including ANO-1, GGNS, and WF3, perform ISI-related activities such as nondestructive examinations (NDE), pressure testing (PT), and repair/replacement (R&R) activities in accordance with standardized programs based on a common Edition/Addenda of ASME Section XI which, at present, is the 2001 Edition/ 2003 Addenda. The planned update to the NDE, PT, and R&R programs is scheduled for December 1, 2017.

3. Applicable ASME Code Requirements

Entergy is required to update the 10-Year ISI programs of ANO-1, GGNS, and WF3 for the ISI Intervals identified in Section 2. The ISI program updates are required to comply with the latest Edition and Addenda of ASME Section XI approved by the NRC in 10 CFR 50.55a(a) as stipulated below.

- Pursuant to 10 CFR 50.55a(a)(1)(ii), *ASME Boiler & Pressure Vessel (B&PV) Code Section XI*, 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 1973 Winter Addenda, 1974 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, and 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 B&PV 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 B&PV 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.”

4. 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, Entergy proposes to update the ANO-1, GGNS, and WF3 ISI programs to the 2007 Edition/2008 Addenda of ASME Section XI, or as noted in Section 2, while maintaining and performing ISI-related activities, such as NDE, PT, and R&R, to the 2001 Edition/2003 Addenda which is the current Edition/Addenda for these programs.

5. Proposed Alternative and Basis for Use

A. Proposed Alternative

Pursuant to 10 CFR 50.55a(z)(1), Entergy requests authorization to maintain the current use of 2001 Edition/2003 Addenda for the performance of NDE, PT, and R&R 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 applicable to the 2001 Edition/2003 Addenda of ASME Section XI including those listed below. Code Cases will also be adopted in accordance with Regulatory Guide 1.147 as required by the NRC in 10 CFR 50.55a.

- To comply with the restriction in paragraph (b)(2)(xxiv) of 10 CFR 50.55a, the 2001 Edition/No Addenda of ASME Section XI, Appendix VIII will be used for performance demonstration of ultrasonic examinations.
- To comply with the condition in paragraph (g)(6)(ii)(D)(4) of 10 CFR 50.55a, ultrasonic examinations performed in accordance with Code Case N-729-1 will comply with the 2004 Edition/No Addenda of ASME Section XI, Appendix VIII.

This proposed alternative does not apply to the selection, planning, and scheduling of ISI examinations and tests as defined in IWB-, IWC-, IWD-, IWE-, IWF-, and IWL-2500. Based on 10 CFR 50.55a(g)(4)(ii), the selection, planning, and scheduling of ISI examinations and tests will be performed in accordance with the 2007 Edition/2008 Addenda, as noted in Section 2, or NRC approved alternatives.

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

B. Basis for Use

The ISI Programs at ANO-1, GGNS, and WF3 will be updated for their new 10-Year ISI Intervals in accordance with 10 CFR 50.55a(g)(4)(ii). As shown in Section 2, these updates are scheduled to occur between May 31, 2017 and July 1, 2017. While ISI related activities such as NDE, PT, and R&R would normally be included as part of the update to the 2007 Edition/2008 Addenda of ASME Section XI, the proposed alternative is to maintain these ISI related activities in compliance with 2001 Edition/2003 Addenda of ASME Section XI while conforming to all NRC conditions of 10 CFR 50.55a.

Entergy has standardized the performance of ISI-related activities such as NDE, PT, and R&R across its entire nuclear fleet to the 2001 Edition/2003 Addenda of ASME Section XI. While ISI program plans are controlled on a site-by-site basis, the NDE, PT, and R&R programs are administered under a corporate set of procedures used at all Entergy sites. Therefore, if the R&R, PT, and NDE programs for the subject Entergy plants are required to be updated to the 2007 Edition/2008 Addenda of ASME Section XI to comply with 10 CFR 50.55a(g)(4)(ii) and 10 CFR 50.55a(a)(1)(ii), Entergy will be required to establish and maintain two different sets of programs based on two different ASME Section XI Codes of Record.

Although the 2007 Edition/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 which have adopted earlier Editions/Addenda follow any new paragraph in the 2007 Edition/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.

- **Site-specific Inservice Inspection Plans:** These documents implement the ASME Section XI Inservice inspection programs at ANO-1, GGNS, JAF, and WF3. They ensure the selection, planning and scheduling of ISI examinations and tests are performed in accordance with 2007 Edition/2008 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 2001 Edition/2003 Addenda of ASME Section XI¹ as described in Enclosure 1 for the performance of R/R, PT and NDE activities.

Therefore, Entergy believes its existing processes will ensure the use of dual Code Editions/Addenda at ANO-1, GGNS, JAF, and WF3 are appropriately managed, tracked, and controlled.

Entergy believes maintaining the Code of Record for ISI related activities at ANO-1, GGNS, and WF3 to the 2001 Edition/2003 Addenda along with the other Entergy plants provides an acceptable level of quality and safety. This alternative allows Entergy to leverage knowledge from its other plants providing ANO-1, GGNS, JAF, and WF3 with a wealth of experience to draw on as well as minimizing 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).

6. Duration of Proposed Alternative

The start and end dates of the new 10-Year ISI intervals at ANO-1, GGNS, and WF3 are as specified in Section 2. However, with seven (7) Entergy nuclear operating plants, including ANO-1, GGNS, and WF3, starting new 10-year ISI inspection intervals between July 1, 2015 and December 1, 2017, Entergy proposes to maintain standardization of its corporately administered NDE, PT, and R&R programs across its entire nuclear fleet at the 2001 Edition/2003 Addenda through November 30, 2017. On December 1, 2017, Entergy intends to update the Code of Record for the NDE, PT, and R&R programs to the 2007 Edition/2008 Addenda which will be the ISI Code of Record for ANO-1, GGNS, and WF3. Therefore, the proposed duration of this alternative for ANO-1, GGNS, and WF3 is from the start date of the new 10-Year ISI interval for each plant through November 30, 2017 as shown below.

Plant	ISI Interval	Duration of Relief Request	
		ISI Interval Start Date	End date
ANO-1	5	5/31/17	11/30/17
GGNS	4	6/2/17	11/30/17
WF3	4	7/1/17	11/30/17

7. Precedents

This request is similar in nature to the following requests for alternatives, in that, Entergy nuclear plants were granted use of 2001 Edition/2003 Addenda for ISI related activities such as NDE, PT, R&R 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 Nondestructive Testing Activities - Pilgrim Nuclear Power Station (TAC NO. ME0238),” dated April 30, 2009 [ADAMS Accession No. ML091130456]
- “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]
- “Inservice Inspection Program for the Fifth Ten-Year Interval,” dated March 27, 2013 [ADAMS Accession No. ML13092A204], supplemented June 12, 2013 [ADAMS Accession No. ML13169A057], and August 7, 2013 [ADAMS Accession No. ML13224A243] and approved August 22, 2013 (TAC NO. MF1194), [ADAMS Accession No. ML13228A197]
- “Request for Approval of Pilgrim Relief Request (PRR)-26, Proposed Alternative in Accordance with 10 CFR 50.55a(a)(3)(i) to Maintain ISI-related Activities to the 2001E through 2003A ASME Section XI Code,” dated November 26, 2014 [ADAMS Accession No. ML14342B001], and approved June 19, 2015 (TAC NO. ME5432), [ADAMS Accession No. ML15166A401]

CNRO-2015-00016

RELIEF REQUEST EN-ISI-15-1 (Updated)

ENCLOSURE 1

PROPOSED ASME SECTION XI CODE OF RECORD FOR ANO-1, GGNS, WF3

PROPOSED ASME SECTION XI CODE OF RECORD FOR ANO-1, GGNS, WF3

Code Provision		ASME Section XI Edition/Addenda ¹	
Sub-section	Article	2001 Edition/2003 Addenda	2007 Edition/2008 Addenda ⁷
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
	IWB-3000	X ⁵	
	IWB-5000	X	
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	(6)	(9)
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 ⁴

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 2001 Edition/2003 Addenda for requirements applicable to authorized inspection, examination methods, and qualification of NDE personnel. However, Entergy 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, Entergy 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 Entergy ISI 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, N06082, 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 preservice and inservice examination and testing will be performed in accordance with Subsection ISTD of the ASME Operation and Maintenance (OM) Code, 2004 Edition/2006 Addenda, or as otherwise required by the NRC in 10 CFR 50.55a, in its entirety.
- (7) The 2007 Edition/2008 Addenda of ASME Section XI applies unless otherwise required by the NRC in a revision to 10 CFR 50.55a(a).
- (8) As exceptions to the 2001 Edition/2003 Addenda, Entergy will comply with the alternatives listed below for performance of Appendix VIII ultrasonic examinations to comply with NRC conditions in 10 CFR.50.55a:
 - The 2001 Edition/No Addenda of Appendix VIII will be used for performance demonstration of ultrasonic examinations to comply with the restriction in 10 CFR 50.55a(b)(2)(xxiv).
 - Ultrasonic examinations performed in accordance with Code Case N-729-1 will comply with the 2004 Edition/No Addenda of Appendix VIII to comply with the condition in 10 CFR 50.55a(g)(6)(ii)(D)(4).
- (9) Article IWF-5000 was deleted from Subsection IWF in the 2006 Addenda.