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CNRO-2015-00022

November 20, 2015

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

SUBJECT: Relief Request EN-ISI-15-1: Proposed Alternative to Maintain ISI-Related Activities to the 2001 Edition/2003 Addendum of ASME Section XI Code

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

Dear Sir or Madam:

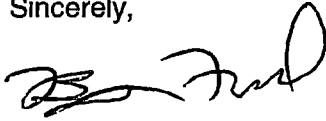
Pursuant to 10 CFR 50.55a(z)(1), Entergy Operations, Inc. and Entergy Nuclear Operations, Inc. (hereafter referred to collectively as "Entergy") request NRC approval to use the 2001 Edition/2003 Addenda of ASME Section XI for the performance of Inservice Inspection (ISI) related activities associated with Entergy's repair/replacement (R&R), pressure testing (PT), and nondestructive testing (NDE) programs during the Fifth 10-year ISI Interval for Arkansas Nuclear One, Unit 1 (ANO-1), Fourth 10-year ISI Interval for Grand Gulf Nuclear Station (GGNS), Fifth 10-year ISI Interval for James A. Fitzpatrick Nuclear Power Plant (JAF), and Fourth 10-year ISI Interval for Waterford 3 Steam Electric Station (WF3). The start dates for the 10-year ISI intervals for ANO-1, GGNS, JAF, and WF3 are as identified in Section 2 of the attached relief request.

Entergy has developed standardized R&R, PT, and NDE fleet programs based on a common Edition/Addenda of ASME Section XI. This relief request is needed for Entergy to maintain these standardized programs and is consistent with relief already granted at Pilgrim and requested at Palisades and Indian Point 2. The proposed duration of this alternative is from January 1, 2017 through November 30, 2017. The information provided in the attachment demonstrates that the proposed request provides an acceptable level of quality and safety.

A047
MRR

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

Sincerely,



BSF/ghd/aye

Attachment: Relief Request RR EN-15-2

cc: T. Mitchell (ECH)
J. Ventosa (WPO)
D. Jacobs (ECH)
M. Woodby (ECH)
J. Browning (ANO)
K. Mulligan (GGNS)
M. Chisum (WF3)
B. Sullivan (JAF)
D. Mannai (WPO)
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 (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

CNRO-2015-00022

RELIEF REQUEST EN-ISI-15-1

RELIEF REQUEST EN-ISI-15-1

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 1 (ANO-1), Grand Gulf Nuclear Station (GGNS), James A. FitzPatrick Nuclear Power Plant (JAF), 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, JAF, 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 |
| JAF | 5 | 2007 Edition/2008 Addenda | 1/1/17 | 12/31/26 |
| WF3 | 4 | 2007 Edition/2008 Addenda | 7/1/17 | 6/30/27 |

Note:

- 1) ANO-1, GGNS, JAF, 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, JAF, 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, JAF, 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, JAF, 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 55.55a. 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 (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, JAF, 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 January 1, 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, JAF, 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, JAF, and WF3 are as specified in Section 2. However, with eight (8) Entergy nuclear operating plants, including ANO-1, GGNS, JAF, 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 latest Edition/Addenda of ASME Section XI approved by the NRC in 10 CFR 50.55a(a)(1)(ii). Therefore, 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 Start Date | End date |
| ANO-1 | 5 | 5/31/17 | 11/30/17 |
| GGNS | 4 | 6/2/17 | 11/30/17 |
| JAF | 5 | 1/1/17 | 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]

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RELIEF REQUEST EN-ISI-15-1

ENCLOSURE 1

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

PROPOSED ASME SECTION XI CODE OF RECORD FOR ANO-1, GGNS, JAF, 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, 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 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(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.