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U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

MCGUIRE NUCLEAR STATION, UNIT 1 DOCKET NO. 50-369

SUBJECT: Request to Use Provisions of a later Edition and Addenda of the ASME Boiler and Pressure Vessel Code, Section XI for Repair/Replacement Activities in accordance with 10 CFR 50.55a(g)(4)(iv)

References:

1. NRC Letter, "Duke Fleet - Request To Use A Provision Of A Later Edition Of The American Society Of Mechanical Engineers Boiler And Pressure Vessel Code, Section XI (EPID NO. L-2020-LLR-0125), Dated November 9, 2020 [Accession No. ML20300A206].
2. NRC Letter, "Brunswick Steam Electric Plant, Units 1 And 2; Catawba Nuclear Station, Units 1 And 2; H. B. Robinson Steam Electric Plant, Unit 2; McGuire Nuclear Station, Units 1 And 2; Oconee Nuclear Station, Units 1, 2, And 3; And Shearon Harris Nuclear Power Plant, Unit 1 – Request To Use A Provision Of A Later Edition Of The American Society Of Mechanical Engineers Boiler And Pressure Vessel Code, Section XI" (EPID L-2020-LLR-0126), Dated February 16, 2021 [Accession No. ML21029A335].
3. NRC Letter, "Brunswick Steam Electric Plant, Units 1 And 2; Catawba Nuclear Station, Units 1 And 2; H. B. Robinson Steam Electric Plant, Unit 2; McGuire Nuclear Station, Units 1 And 2; Oconee Nuclear Station, Units 1, 2, And 3; And Shearon Harris Nuclear Power Plant, Unit 1 – Request For Use Of A Later Edition Of ASME Boiler And Pressure Vessel Code, Section Xi For Repair And Replacement Activities" (EPID L-2020-LLR-0124), Dated May 6, 2021 [Accession No. ML21113A013]
4. McGuire Nuclear Station, Unit 1 – Relief Request RA-20-0031, Delay To Update The Code Of Record For Inservice Inspection (EPID L-2019-LLR-0119), Dated August 21, 2020 [Accession No. ML20230A205].

Ladies and Gentlemen,

By letter dated November 9, 2020 (Reference 1) the U.S. Nuclear Regulatory Commission (NRC) approved for Duke Energy Carolinas, LLC (Duke Energy) McGuire Nuclear Station (MNS) Unit 1 a request to use a provision of a later edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, Section XI. Specifically, MNS Unit 1 received approval to utilize paragraph IWA-4540(b), "Mitigation of Defects by Modification" of the 2017 ASME Code for the remainder of the fourth 10-year Inservice Inspection (ISI) interval.

By letter dated February 16, 2021 (Reference 2) the NRC approved the use of Articles IWA-5120, IWA- 5213, IWA-5241, IWA-5242, and IWA-5250 of the 2017 ASME Code for pressure testing of Class 1, Class 2, and Class 3 systems for MNS Unit 1, for the remainder of the fourth 10-year ISI interval.

By letter dated May 6, 2021 (Reference 3) the NRC approved the use of Paragraph IWA-4340 of the 2017 ASME Code for repair and replacement activities of ASME Class 2 and 3 components for MNS Unit 1 for the remainder of the fourth 10-year ISI interval.

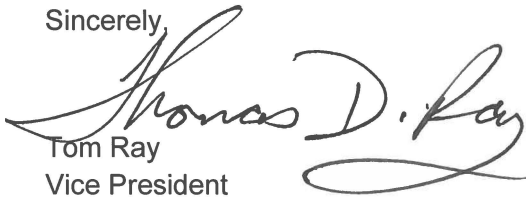
By letter dated August 21, 2020 (Reference 4) the NRC approved a proposed alternative to delay the update of the ASME Code of Record for the MNS Unit 1 ISI Program, allowing MNS Unit 1 to remain on the 2007 version of the ASME Code with 2008 Addenda after the end of the fourth 10-year ISI interval and until the beginning of the Unit 2 Fifth 10-year ISI interval. The approval in Reference 4 allows Duke Energy to align MNS Units 1 and 2 to be updated to the same ASME Code of Record at the same time. The MNS Unit 1 fourth 10-year interval will end in December, 2021. The interval start and end dates for MNS Units 1 and 2 are unchanged by the approval obtained in Reference 4.

References 1, 2, and 3 approve the use of later provisions of the ASME Code until the end of the MNS Unit 1 fourth 10-year ISI interval. Because of this, MNS is not currently authorized to use these provisions of the 2017 ASME Code into the fifth 10-year ISI interval. However, per Reference 4, MNS Unit 1 will continue using the 2007 version of the ASME Code with 2008 Addenda through the first period of the upcoming fifth 10-year ISI interval. Subsequently, in accordance with 10 CFR 50.55a, "Codes and Standards," paragraph (g)(4)(iv), and the guidance provided in NRC Regulatory Issue Summary (RIS) 2004-12, "Clarification on Use of Later Editions and Addenda to the ASME OM Code and Section XI", dated July 28, 2004 Duke Energy is seeking approval, until the MNS Unit 1 ISI program is fully updated to the latest ASME Code of Record, to continue the utilizing the following provisions of the 2017 version of the ASME Code that were approved for use in References 1 and 2: Articles IWA-4540(b), IWA-5120, IWA- 5213, IWA-5241, IWA-5242, and IWA-5250. Additionally, in accordance with 10 CFR 50.55a(g)(4)(iv), and the guidance provided in NRC Regulatory Issue Summary (RIS) 2004-16, "Use of Later Editions and Addenda to ASME Code Section XI for Repair/Replacement Activities", dated October 19, 2004, Duke Energy is seeking approval, until the MNS Unit 1 ISI program is fully updated to the latest ASME Code of Record, to continue utilizing paragraph IWA-4340 of the 2017 version of the ASME Code, approved for use in Reference 3. The requests to utilize these provisions of the 2017 ASME Code are provided in Enclosures 1, 2, and 3.

To support the timeline for use of these provisions beyond the end of the fourth 10-year ISI interval, which concludes in December of 2021, Duke Energy requests approval of this request by December 1, 2021. There are no regulatory commitments in this letter.

If you have any questions concerning this request, please contact Art Zaremba, Director – Fleet Licensing, at (980) 373-2062.

Sincerely,



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Enclosures:

1. Request to Use Paragraph 4540(b) of a Later Edition and Addenda of the ASME Code, Section XI per 10 CFR 50.55a(g)(4)(iv) and RIS 2004-12
2. Request to Use Paragraphs IWA-5120, IWA- 5213, IWA-5241, IWA-5242, and IWA-5250 of a Later Edition and Addenda of the ASME Code, Section XI per 10 CFR 50.55a(g)(4)(iv) and RIS 2004-12
3. Request to Use Paragraph IWA-4340 of a Later Edition and Addenda of the ASME Code, Section XI per 10 CFR 50.55a(g)(4)(iv) and RIS 2004-16

cc: L. Dudes, Regional Administrator USNRC Region II
G. A. Hutto, USNRC Senior Resident Inspector – MNS
J. Klos, NRR Project Manager – MNS

Enclosure 1

Request to Use Paragraph 4540(b) of a Later Edition and Addenda of the ASME Code, Section XI per 10 CFR 50.55a(g)(4)(iv) and RIS 2004-12

In accordance with 10 CFR 50.55a, "Codes and standards," paragraph (g)(4)(iv) and the guidance provided in Reference 1, Duke Energy requests NRC approval to use specific provisions of a later edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, Section XI, for McGuire Nuclear Station Unit 1. Specifically, Duke Energy requests approval to use IWA-4540(b) of the 2017 Edition of the ASME B&PV Code.

1. ASME Code Component(s) Affected:

   All Class 1, 2, and 3 items located in the ASME Section XI boundaries.

2. Requested Date for Approval:

   Approval requested by December 1, 2021

3. Applicable Code Edition and Addenda:

Plant/Unit(s)	ISI Interval	ASME Section XI Code Edition/Addenda	Interval Start Date	Interval End Date[1]
McGuire Nuclear Station, Unit 1	Fifth	2007 Edition, Through 2008 Addendum	12/01/2021	11/30/2031

Note 1: Date listed is the currently planned interval end date. In accordance with IWA-2430(c)(1), this end date may be extended or shortened as necessary.

4. Proposed Subsequent Code Edition and Addenda (or Portion):

   All Duke Energy nuclear plants perform Repair/Replacement activities in accordance with a standardized fleet program. This standardized program is based on an Edition of ASME Section XI which, at present, is the 2007 Edition through the 2008 Addenda.

   Pursuant to 10 CFR 50.55a(g)(4)(iv), Duke Energy requests permission to utilize IWA-4540(b) from the 2017 Edition. This subparagraph outlines items that are exempt from pressure testing after repair/replacement activities.

5. Related Requirements:

   10 CFR 50.55a(g)(4)(iv) states:

   "Inservice examination of components and system pressure tests may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in paragraph (a) of this section, subject to the conditions listed in paragraph (b) of this section, and subject to Commission approval. Portions of editions or addenda may be used, provided that all related requirements of the respective editions or addenda are met."

   10 CFR 50.55a(b)(2) incorporates by reference Section XI, Division 1, of the ASME B&PV Code 2017 Edition as approved in Reference 3. Duke Energy is requesting to use of IWA-4540(b) of the 2017 Edition of ASME Section XI to utilize the exemptions listed. There are no related requirements or applicable conditions associated with this subparagraph, IWA-4540(b).

6. Duration of Proposed Request:

The duration of this request will continue for the 1st Period of the Fifth 10-year Interval until McGuire Unit 1 updates its Code of Record to align with McGuire Unit 2 as authorized by Relief Request RA-20-0031 (ADAMS Accession No. ML20230A205).

7. References:

1. NRC Regulatory Issue Summary 2004-12, "Clarification on Use of Later Editions and Addenda to the ASME OM Code and Section XI," dated July 28, 2004.

2. U.S. Nuclear Regulatory Commission Memorandum from D. Rudland (Senior Level Advisor, Division of New and Renewed Licenses) to Anna H. Bradford (Director, Division of New and Renewed Licenses), "Summary of the June 25, 2020, Public Meeting with the Nuclear Industry to Discuss Title 10 of the Code of Federal Regulations Section 50.55a(b)(2)(xxvi) Condition on the Pressure Testing of Class 1, 2, and 3 Mechanical Joints," dated July 8, 2020 (ML20189A286).

3. Federal Register, 85 FR 26540, dated May 4, 2020.

8. Precedents

1. **ADAMS Accession Number ML20216A399**. **NRC approval dated August 6, 2020.** Vogtle Electric Generating Plant, Units 1 and 2 - Request to use a Provision of a Later Edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI (EPID L-2020-LLR-0101).

2. **ADAMS Accession Number ML20226A272**. **NRC approval dated August 18, 2020.** Arkansas Nuclear One, Units 1 and 2; Grand Gulf Nuclear Station, Unit 1; Indian Point Nuclear Generating Unit No. 3; Palisades Nuclear Plant; River Bend Station, Unit 1; and Waterford Steam Electric Station, Unit 3 – Request to use a Provision of a Later Edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI (EPID L-2020-LLR-0108).

3. **ADAMS Accession Number ML20302A080**. **NRC approval dated October 30, 2020.** Wolf Creek Generating Station, Unit 1 – Request to use a Provision of a Later Edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI (EPID L-2020-LLR-0134).

4. **ADAMS Accession Number ML20300A206. NRC approval dated November 9, 2020.** Duke Energy Fleet, - Request to use a Provision of a Later Edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI (EPID No. L-2020-LLR-0125).

Enclosure 2

Request to Use Paragraphs IWA-5120, IWA- 5213, IWA-5241, IWA-5242, and IWA-5250 of a Later Edition and Addenda of the ASME Code, Section XI per 10 CFR 50.55a(g)(4)(iv) and RIS 2004-12

Pursuant to 10 CFR 50.55a(g)(4)(iv) and in accordance with the guidance provided in NRC Regulatory Issue Summary (RIS) 2004-12, dated July 28, 2004, Duke Energy Carolinas, LLC, requests NRC approval to use specific provisions of a later edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, Section XI, for Duke Energy McGuire Unit 1. Duke Energy requests approval to use the ASME Boiler and Pressure Vessel Code, Section XI, 2017 Edition, Articles IWA-2318, IWA-5120, IWA-5213, IWA-5241, IWA-5242, and IWA-5250 for pressure testing of Class 1, Class 2, and Class 3 systems.

1. ASME Code Component(s) Affected:

   All pressure-retaining components subject to pressure testing requirements of Examination Category B-P for Class 1, Category C-H for Class 2, and Category D-B for Class 3.

2. Applicable Code Edition and Addenda:

   The applicable Edition and Addenda of the ASME Code, Section XI is identified in Table 1.

Table 1

Plant/Unit	ISI Interval	ASME Section XI Code Edition/Addenda	Interval Start Date	Interval End Date[1]
McGuire Nuclear Station / Unit 1	Fifth	2007 Edition Through 2008 Addenda	12/01/2021	11/30/2031

Note 1: Date listed is the currently planned interval end date. In accordance with IWA-2430(c)(1), this end date may be extended or shortened as necessary.

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

   Duke Energy proposes to utilize portions of the ASME Section XI, 2017 Edition in lieu of the 2007 Edition up to and including the 2008 Addenda. Until the 2017 Edition was published, the ASME Section XI code did not contain requirements for pressure testing pneumatic safety related systems. Additionally, the 2017 edition provides exemptions for periodic system pressure tests, clarification for test condition hold time, and incorporates clarification for systems borated for the purpose of controlling reactivity. The affected ASME Section XI Examination Categories are B-P for Class 1, C-H for Class 2, and D-B for Class 3.

4. Related Requirements:

   10 CFR 50.55a(g)(4)(iv) states:

   "Inservice examination of components and system pressure tests may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in paragraph (a) of this section, subject to the conditions listed in paragraph (b) of this section, and subject to Commission approval. Portions of editions or addenda may be used, provided that all related requirements of the respective editions or addenda are met."

Federal Register, Volume 85, Number 86, dated May 4, 2020 (85 FR 26540), incorporates by reference the 2015 and 2017 Editions of the ASME Code for inservice inspection. Duke Energy will adhere to any conditions that apply to pressure testing.

5. Duration of Proposed Request:

The duration of this request will continue for the 1st Period of the Fifth 10-year Interval until McGuire Unit 1 updates its Code of Record to align with McGuire Unit 2 as authorized by Relief Request RA-20-0031 (ADAMS Accession No. ML20230A205).

6. References:

1. NRC Regulatory Issue Summary 2004-12, "Clarification on Use of Later Editions and Addenda to the ASME OM Code and Section XI," dated July 28, 2004
2. Federal Register, 85 FR 26540, dated May 4, 2020

7. Precedents:

ADAMS Accession Number ML21029A335. NRC approval dated February 16, 2021. Duke Energy Fleet, - Request to use a Provision of a Later Edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI (EPID No. L-2020-LLR-0126).

Enclosure 3

Request to Use Paragraph IWA-4340 of a Later Edition and Addenda of the ASME Code, Section XI per 10 CFR 50.55a(g)(4)(iv) and RIS 2004-16

1. Applicable Code Edition & Requirements

   The applicable Edition and Addenda of the ASME Code, Section XI is identified in Table 1.

Table 1

Plant/Unit(s)	ISI Interval	ASME Section XI Code Edition/Addenda	Interval Start Date	Interval End Date[1]
McGuire Nuclear Station, Unit 1	Fifth	2007 Edition, Through 2008 Addendum	12/01/2021	11/30/2031

Note 1: Date listed is the currently planned interval end date. In accordance with IWA-2430(c)(1), this end date may be extended or shortened as necessary.

Paragraph IWA-4340 of the ASME Section XI 2001 Edition through the 2010 Addenda, is prohibited for use by 10CFR50.55a(b)(2)(xxv)(A) which excludes mitigation of defects by modification as a repair option.

2. Proposed Alternative Code Edition and Requirements

Pursuant to 10 CFR 50.55a(g)(4)(iv), Duke Energy requests permission to use paragraph IWA-4340 of the 2017 Edition as conditioned by 10CFR50.55a(b)(2)(xxv)(B), for repair/replacement activities.

ASME Section XI 2017 Edition, paragraph IWA-4340 is approved for use (Reference 2) with the conditions stipulated in 10CFR50.55a(b)(2)(xxv)(B). Mitigation of defects by modification provides an alternative solution for defect removal in instances where immediate repair or replacement cannot be executed due to time constrains or plant operational challenges. Approval of this request also eliminates the need for submittal and approval of emergent relief requests to utilize these provisions on a case by case basis.

The use of ASME Section XI 2017 Edition IWA-4340 including all related requirements of ASME Code, Section XI, 2017 Edition with conditions in 10CFR50.55a(b)(2)(xxv)(B) will provide an acceptable level of quality and safety, while also offering alternative repair/replacement opportunities.

3. Related Requirements:

10 CFR 50.55a(g)(4)(iv) states:

"Inservice examination of components and system pressure tests may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in paragraph (a) of this section, subject to the conditions listed in paragraph (b) of this section, and subject to Commission approval. Portions of editions or addenda may be used, provided that all related requirements of the respective editions or addenda are met."

Federal Register, Volume 85, Number 86, dated May 4, 2020 (85 FR 26540), incorporates by reference the 2015 and 2017 Editions of the ASME Code for inservice inspection. Duke Energy will adhere to all related requirements of ASME Code, Section XI, 2017 Edition as conditioned by 10CFR50.55a(b)(2)(xxv)(B).

4. Duration of Proposed Request

The duration of this request will continue for the 1st Period of the Fifth 10-year Interval until McGuire Unit 1 updates its Code of Record to align with McGuire Unit 2 as authorized by Relief Request RA-20-0031 (ADAMS Accession No. ML20230A205).

5. References

1. NRC Regulatory Issue Summary 2004-16, "Use of Later Editions and Addenda to ASME Code Section XI for Repair/Replacement Activities," dated October 19, 2004.

2. Federal Register, 85 FR 26540, dated May 4, 2020.

6. Precedents

ADAMS Accession Number ML21113A013. NRC approval dated May 6, 2021. Brunswick Steam Electric Plant, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2; H.B. Robinson Steam Electric Plant, Unit 2; McGuire Nuclear Station, Units 1 and 2; Oconee Nuclear Station, Units 1, 2, and 3; And Shearon Harris Nuclear Power Plant, Unit 1 – Request for Use of a Late Edition of ASME Boiler and Pressure Vessel Code, Section XI for Repair and Replacement Activities (EPID L-2020-LLR-0124).