



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

August 31, 2023

Mr. Edward Pigott
Site Vice President
Duke Energy Carolinas, LLC
McGuire Nuclear Station
12700 Hagers Ferry Road
Huntersville, NC 28078-8985

SUBJECT: WILLIAM B. MCGUIRE NUCLEAR STATION, UNITS 1 AND 2 – RELIEF
REQUEST USE OF LATER EDITION OF ASME CODE
(EPID L-2023-LLR-0033)

Dear Mr. Pigott:

By letters dated June 28, 2023, Duke Energy Carolinas, LLC (Duke Energy, the licensee) requested relief from the U.S. Nuclear Regulatory Commission (NRC) related to the use of a later edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, "Rules for Inservice Inspection [ISI] of Nuclear Power Plant Components," at McGuire Nuclear Station, Units 1 and 2 (MNS).

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(g)(4)(ii), the licensee submitted this relief request for NRC on the basis that later editions and addenda of the ASME Code, Section XI that have been incorporated by reference, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 10 CFR 50.55a(g)(4)(iv).

The NRC staff has reviewed the subject request and concludes, as set forth in the safety evaluation, that Duke Energy has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(g)(4)(iv). Therefore, the NRC staff approves the relief as requested.

All other ASME Boiler and Pressure Vessel (BPV) Code or ASME OM Code requirements for which relief was not specifically requested and approved remain applicable.

E. Pigott

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If you have any questions, please contact John Klos, MNS Licensing Project Manager, at (301) 415-5136 or via email at John.Klos@nrc.gov.

Sincerely,

Michael T. Markley, Branch Chief
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-369 and 50-370

Enclosure:
Safety Evaluation

cc: Listserv



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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
REQUEST TO USE SUBSEQUENT EDITION OF ASME SECTION XI REFERENCED
IN 10 CFR 50.55A(A) FOR ISI CODE OF RECORD
MCGUIRE NUCLEAR STATION, UNITS 1 AND 2
DUKE ENERGY CAROLINAS, LLC
DOCKET NO. 50-369 and 50-370

1.0 INTRODUCTION

By letter dated June 28, 2023 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML23179A170), Duke Energy Carolinas, LLC (Duke Energy or the licensee) submitted a request to use a later edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, "Rules for Inservice Inspection [ISI] of Nuclear Power Plant Components," at McGuire Nuclear Station, Units 1 and 2 (MNS). In its letter dated June 28, 2023, the licensee stated, in part, that,

The ASME BPV Section XI ISI Program at MNS is currently being updated for its next (Fifth) 120-month interval. Per 10 CFR 50.55a(g)(4)(ii), 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 ASME Code incorporated by reference in 10 CFR 50.55a(a) 18 months before the start of the 120-month inspection interval.

The MNS Fifth ISI Interval started on December 1, 2021 for Unit 1 and will start on March 1, 2024 for Unit 2. Currently, MNS Unit 1 has authorization to implement the requirements of the Section XI, 2007 Edition with the 2008 Addenda, for the First Period of the Fifth ISI Interval per Relief Request RA-20-0031 (ADAMS ML ML20023A272). After the end of the Unit 1 First Period, the Unit 1 Code of Record is to be updated in conjunction with the Unit 2 Interval update, based on the Unit 2 Fifth Interval start date of March 1, 2024. This Unit 1 Relief Request was approved by the NRC on August 21, 2020 (ADAMS ML20230A205).

Per 10 CFR 50.55a(g)(4)(ii), the next MNS Code of Record would be the 2017 Edition based on the Code of Record lock date of September 1, 2022 (using 18 months prior to the March 1, 2024 Interval date). Effective on November 28, 2022, the 2019 Edition was endorsed by the NRC through reference in 10 CFR 50.55a(a). In accordance with 10 CFR 50.55a(g)(4)(iv), and using the guidance of RIS 2004-12 (Reference 1), MNS

Enclosure

requests to use the 2019 Edition of the ASME BPV Section XI Code, in full, for the ISI Program Code of Record implemented during the Fifth ISI Interval updates for Units 1 and 2, as discussed above.

2.0 REGULATORY EVALUATION

Pursuant to 10 CFR 50.55a(g)(4)(iv), “Applicable ISI Code: Use of subsequent Code editions and addenda,” states that, “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 [10 CFR 50.55a], 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.

Based on the above, the NRC staff finds that regulatory authority exists for the licensee to request and the NRC to approve the use of subsequent editions and addenda of the ASME Code as requested by the licensee.

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 (ML042090436).

3.0 TECHNICAL EVALUATION

3.1 The Licensee’s Proposed Use of Later Code Editions

The licensee is preparing to update the ASME Code, Section XI, ISI program at MNS for its next 120-month interval. As stated in 10 CFR 50.55a(g)(4)(ii), “Applicable ISI Code: Successive 120-month intervals,” states, in part, that, “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 ASME Code incorporated by reference in paragraph (a) of this section 18 months before the start of the 120-month inspection interval...” For MNS, the applicable Code of Record for the Fifth ISI interval at both units would be the 2017 Edition of the ASME Code, Section XI.

In its letter dated June 28, 2023, Duke Energy requested NRC authorization to use the 2019 Edition of the ASME Section XI Code for the remainder of the Fifth MNS Unit 1 ISI interval, from December 1, 2021, to November 30, 2031, and the entirety of the Fifth Unit 2 ISI interval from March 1, 2024, to February 28, 2034.

3.2 NRC STAFF EVALUATION

Based on the requirements in 10 CFR 50.55a(g)(4)(iv), the NRC staff considered the following criteria in their review of the licensee’s application:

1. The proposed edition of the ASME Code is incorporated by reference in 10 CFR 50.55a(a).
2. The proposed edition of the ASME Code is subject to the conditions listed in 10 CFR 50.55a(b).

3. The licensee shall request Commission approval to use the proposed edition of the ASME Code.
4. If only portions of editions are to be used, all related requirements of the respective editions must be met.

In evaluating the first criterion, the staff noted that 10 CFR 50.55a(a) incorporates by reference the ASME Code, Section XI, 2019 Edition, as published in the *Federal Register* on October 27, 2022 (87 FR 65148), becoming effective November 28, 2022. Therefore, the NRC staff finds that the first criterion has been satisfied.

In evaluating the second criterion, the NRC staff confirmed, that as part of the submittal, the Duke Energy letter does not propose any alternatives to the provisions of the ASME Code, 2019 Edition, as incorporated by reference. The NRC staff noted that use of the 2019 Edition of the Code would, therefore, be subject to the conditions listed in 10 CFR 50.55a(b). Therefore, the NRC staff finds that the second criterion has been satisfied.

In evaluating the third criterion, the staff noted that the licensee's submittal dated June 28, 2023, constitutes a request to the Commission for approval to use a subsequent edition of the ASME Code. Therefore, the NRC staff finds that the third criterion has been satisfied.

In evaluating the fourth criterion, the staff confirmed that the licensee's submittal dated June 28, 2023, proposes to use the ASME Code, 2019 Edition, as incorporated by reference, in its entirety. Therefore, the NRC staff finds that the fourth criterion is not applicable.

Based on the above, the staff finds that Duke Energy has satisfied each of the four criteria of 10 CFR 50.55a(g)(4)(iv) in its request to use the ASME Code, Section XI, 2019 Edition, in lieu of the 2017 Edition of the ASME Code, Section XI, for the MNS fifth interval ISI program Code of Record. Therefore, NRC staff finds that the licensee's proposed use of ASME Code, Section XI, 2019 Edition is acceptable.

4.0 CONCLUSION

As set forth above, the NRC staff determined that the use of the ASME Code, Section XI, 2019 Edition, for the remainder of the MNS Unit 1 Fifth ISI interval and for the entirety of the MNS Unit 2 Fifth ISI interval, is acceptable because Duke Energy has adequately addressed all the regulatory requirements set forth in 10 CFR 50.55a(g)(4)(iv) and will be in compliance with the requirements of the 2019 Edition of the ASME Code, Section XI. Therefore, the NRC staff authorizes the use of the ASME Code, Section XI, 2019 Edition, for the remainder of the Fifth ISI interval at MNS Unit 1 and the entirety of the Fifth ISI interval at MNS Unit 2, which are scheduled to end on November 30, 2031, and February 28, 2034, respectively.

Principal Contributor: Steven Levitus, NRR

DATE: August 31, 2023

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(EPID L-2023-LLR-0033) DATED AUGUST 31, 2023

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NRR-028

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