



Tom Ray  
Vice President  
McGuire Nuclear Station

Duke Energy  
MG01VP | 12700 Hagers Ferry Rd.  
Huntersville, NC 28078

704.946.2305  
Tom.Ray@duke-energy.com

Serial: RA-20-0087  
April 02, 2020

10 CFR 50.55a

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

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

**SUBJECT:** Response to Request for Additional Information Regarding Request for Alternative in Accordance with 10 CFR 50.55a (z)(1) to Delay the Update of the ASME Code of Record for the First Inspection Period

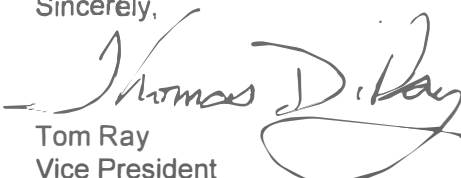
- REFERENCES:**
1. RA-19-0341, Request for Alternative in Accordance with 10 CFR 50.55a (z)(1) to Delay the Update of the ASME Code of Record for the First Inspection Period, December 19, 2019 [ML19353C619]
  2. RA-20-0031, Revision to Request for Alternative in Accordance with 10 CFR 50.55a (z)(1) to Delay the Update of the ASME Code of Record for the First Inspection Period, January 23, 2020 [ML20023A272]
  3. Email from Gregory Croon to Chet Sigmon: Request for Additional Information - McGuire Nuclear Station Unit 1 Delay in Update of the Code of Record for In Service Inspections, March 05, 2020 [ML20071D096]

Ladies and Gentlemen,

On December 19, 2019 Duke Energy Carolinas, LLC (Duke Energy) submitted RA-19-0341, Request for Alternative in Accordance with 10 CFR 50.55a (z)(1) to delay the update of the ASME code of record for the first inspection period of the fifth interval for McGuire Nuclear Station Unit 1 (Reference 1). On January 23, 2020, Duke Energy submitted RA-20-0031 as a revision which superseded the original submittal (Reference 2). By letter dated March 05, 2020 the NRC requested additional information needed to complete review of the Relief Request (Reference 3).

Enclosure 1 provides Duke Energy's response to the Requests for Additional Information. If you have questions concerning this request, please contact Art Zarembo, Manager - Fleet Licensing, at (980) 373-2062.

Sincerely,



Tom Ray  
Vice President  
McGuire Nuclear Station

Enclosure:

1. Response to Requests for Additional Information

cc : (all with Enclosure)

L. Dudes, Regional Administrator USNRC Region II  
Andy Hutto, USNRC Senior Resident Inspector – MNS  
M. Mahoney, NRR Project Manager – MNS

**Enclosure 1**

**Response to Requests for Additional Information**

**RAI-01**

Confirm that, with the NRC approval of Relief Request RA-20-0031, the length of McGuire, Unit, 1 fourth and fifth 10-year ISI intervals will not be affected and that the fourth ISI interval will still be scheduled to end on November 30, 2021, and the fifth ISI interval will be scheduled to start on December 1, 2021 and end on November 30, 2031.

**Response to RAI-01**

Duke Energy confirms the length of McGuire, Unit 1, fourth and fifth 10-year ISI intervals will not be affected by the approval of Relief Request RA-20-0031 and the fourth ISI interval remains scheduled to end on November 30, 2021, and the fifth ISI interval is scheduled to start on December 1, 2021 and scheduled to end on November 30, 2031.

**RAI-02**

Given the licensee's statement on page 3 of its January 23, 2020 submittal:

"The proposed alternative includes continued use of relief requests submitted and approved for McGuire Unit 1 in the 2<sup>nd</sup> and 3<sup>rd</sup> periods of the fourth 10-year Interval, during the 1<sup>st</sup> period of the fifth 10-year Interval."

- a.** Provide a list (with ADAMS Accession numbers), of relief requests that were previously approved by the NRC for use in the second and third periods of the fourth 10-year ISI interval of McGuire, Unit 1, that are requested by the licensee for "continued use" in the first inspection period of the fifth 10-year ISI interval.

**Response to RAI-02a**

<b>Serial Nos</b>	<b>Description</b>	<b>Date Submitted / ML Listing</b>	<b>Date SER Approved / ML Listing</b>
13-MN-002	Use of Risk Informed Inservice Inspection Program for the Fourth Inspection Interval, using ASME Code Case N-716, (no revision).	8/13/2013 (ML13234A069)	7/14/2014 (ML14188C348)
17-GO-001	RPV Flange Ligament exams based on EPRI Report 3002007626	03/29/2017 (ML17088A846)	12/26/2017 (ML17331A086)
18-GO-001	Alternative to the Depth Sizing Qualification Requirement of Appendix VIII, Supplements 2 and 10	09/06/2018 (ML18249A008)	06/20/2019 (ML19128A326)
19-GO-001	Use of encoded Phased Array UT (PAUT) in lieu of RT to perform required examinations of welds replaced in accordance with ASME Section XI, IWA-4000	05/20/2019 (ML19143A072)	09/17/2019 (ML19254A620)

- b.** For the identified relief requests in above item a, address whether any NRC actions have been taken (e.g., endorsement, with or without conditions, of an ASME Code Case upon which a prior relief request was based) after NRC approval.

Response to RAI-02b

The NRC listed Code Case N-716 (no revision) in Table 2 of Regulatory Guide 1.193, “ASME Code Cases Not Approved for Use”, but provided authorization for McGuire Unit 1 to use Code Case N-716 (no revision) via Relief Request 13-MN-002 (ML14188C348) for the 4<sup>th</sup> 10-year interval. McGuire Unit 1 plans to continue using Code Case N-716 (no revision) during the 1<sup>st</sup> Period of the 5<sup>th</sup> 10-year interval via extended use of Relief Request 13-MN-002 as described in RAI-02(a). Revision 19 of Regulatory Guide 1.147 allows the use of Code Case N-716-1 without conditions; therefore, it is expected no Relief Request will be needed to use this Code Case after the 1<sup>st</sup> Period of the 5<sup>th</sup> 10-year interval.

Serial Nos	Description	NRC actions taken (e.g., endorsement, with or without conditions, of an ASME Code Case upon which a prior relief request was based)
13-MN-002	Use of Risk Informed Inservice Inspection Program for the Fourth Inspection Interval, using ASME Code Case N-716, (No Revision)	ASME Code Case N-716, (No Revision), Alternative Piping Classification and Examination Requirements, Section XI, Division 1, is superseded by N-716-1.  ASME Code Case N-716-1, Alternative Piping Classification and Examination Requirements, Section XI, Division 1, is approved for unconditional use in Regulatory Guideline 1.147, Revision 19.
17-GO-001	RPV Flange Ligament exams based on EPRI Report 3002007626	None.
18-GO-001	Alternative to the Depth Sizing Qualification Requirement of Appendix VIII, Supplements 2 and 10	None.
19-GO-001	Use of encoded Phased Array UT in lieu of RT to perform required examinations of welds replaced in accordance with ASME Section XI, IWA-4000	ASME Code Case N-831, Ultrasonic Examination in Lieu of Radiography for Welds in Ferritic Pipe Section XI, Division 1, is approved with conditions for use in Regulatory Guideline 1.147, Revision 19.

- c.** Clarify whether it is the licensee's intent that the "continued use" of the identified relief requests (in above item a), for the first period of the fifth 10-year ISI interval is justified by the information provided in the prior licensee submittals for these relief requests, or, for each relief request, provide justifications for "continued use" in the first inspection period of the fifth 10-year ISI interval.

Response to RAI-02c

Relief Request 13-MN-002 Risk Informed program was created to identify high safety significant (HSS) piping, to determine the locations to be inspected within the identified piping, and to identify appropriate inspection methods. This program uses an alternative to the risk-informed process described in NRC-approved EPRI-TR-112657. The implementation strategy, modified as described in its submittal, satisfies the guidelines established in RG 1.174 and is consistent with the guidance provided in RG 1.178. Therefore, the continued use of this alternative during the first period of the fifth interval will continue to provide an acceptable level of quality and safety.

Relief Request 17-GO-001 provides an acceptable level of quality and safety because the EPRI Technical Report No. 3002007626, as referenced in the request, determined the RPV threads in flange examination could safely be eliminated. Duke has demonstrated that the deterministic stress analysis and flaw tolerance evaluation in the EPRI Report are bounding for the RPV flange. Therefore, continued use of this relief request for the first period of the fifth interval of Unit 1 continues to provide an acceptable level of quality and safety.

Relief Request 18-GO-001 provides reasonable assurance of the structural integrity and leak tightness of the subject welds because the proposed RMS error provides reasonable assurance that the ultrasonic examination has been qualified to measure the depth of flaws with a reasonable accuracy and Duke uses qualified ultrasonic examination techniques in accordance with Code Cases N-695-1 and N- 696-1. Therefore, continued use of this relief request for the first period of the fifth interval of Unit 1 continues to provide an acceptable level of quality and safety.

Relief Request 19-GO-001 continues to provide reasonable assurance of the structural integrity and leak tightness based on the studies provided as referenced in the relief request. There is sufficient technical basis for the use of encoded PAUT in lieu of RT for repair/replacement inspection of the ferritic steel or austenitic stainless steel piping welds. The encoded PAUT, as compared to RT, was shown to be an effective technique for both detection and characterization of fabrication flaws in the repaired/replaced ferritic steel or austenitic stainless steel piping welds. Therefore, continued use of this relief request for the first period of the fifth interval of Unit 1 continues to provide an acceptable level of quality and safety.