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10 CFR 50.55a

RS-24-004

January 11, 2024

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

Braidwood Station, Units 1 and 2
Renewed Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456 and STN 50-457

Subject: Proposed Alternative to the Distribution Requirements of ASME Code Table IWC-2411-1 for the Steam Generators

In accordance with 10 CFR 50.55a(z)(2), Constellation Energy Generation, LLC (CEG) is requesting a proposed alternative from the minimum percentage requirements contained in the ASME Code, Table IWC-2411-1, for the second inspection period which would require examination of two components in A1R24 (April 2024) at Braidwood Unit 1 and examination of three components in A2R24 (October 2024) at Braidwood Unit 2.

CEG requests approval of this request by March 31, 2024, to support the start date of the Braidwood Unit 1 A1R24 outage.

If you have any questions, please contact Jesse Brown at jesse.brown@constellation.com.

There are no regulatory commitments contained in this letter.

Respectfully,

Kevin Lueshen
Director - Licensing
Constellation Energy Generation, LLC

Attachment: Proposed Alternative to the Distribution Requirements of ASME Code Table IWC-2411-1 for the Steam Generators

cc: Regional Administrator - NRC Region III
NRC Senior Resident Inspector Braidwood Station
NRC Project Manager - Braidwood Station
Illinois Emergency Management Agency - Division of Nuclear Safety

Attachment

**Proposed Alternative to the Distribution Requirements of ASME Code Table
IWC-2411-1 for the Steam Generators**

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**Proposed Alternative to the Distribution Requirements of ASME Code Table
IWC-2411-1 for the Steam Generators
in Accordance with 10 CFR 50.55a(z)(2)**

1. ASME Code Component(s) Affected:

Code Class: Class 2
Description: Steam Generator (SG) Pressure Retaining Welds and Full Penetration Welded Nozzles
Steam Generator (SG) Nozzle-to-Shell Welds and Nozzle Inside Radius Sections
Examination Categories: C-A, Pressure Retaining Welds in Pressure Vessels
C-B, Pressure Retaining Nozzle Welds in Pressure Vessels
Item Numbers: C1.10 - Shell Circumferential Welds
C1.20 - Head Circumferential Welds
C2.21 - Nozzle-to-Shell (Nozzle to Head or Nozzle to Nozzle) Weld

2. Applicable ASME Section XI Edition and Addenda:

<u>PLANT</u>	<u>INTERVAL</u>	<u>EDITION</u>	<u>START</u>	<u>END</u>
Braidwood Station, Unit 1	Fourth	2013 Edition	August 29, 2018	July 28, 2028
Braidwood Station, Unit 2	Fourth	2013 Edition	November 5, 2018	October 16, 2028

3. Applicable Code Requirement:

For American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME BPV Code) Category C-A and Category C-B steam generator welds, ASME Code, Section XI, Subparagraph IWC-2411(a) and Table IWC-2411-1, require at least 50 percent of the required inspections be conducted by the end of the second inspection period. These inspections are required by ASME Code, Section XI, Table IWC-2500-1 (C-A, C-B), for each Inservice Inspection (ISI) interval.

4. Reason for Request:

In the Reference 1 and 2 letters, CEG submitted proposed alternatives associated with examination of steam generator welds and components at Braidwood Generating Station (Braidwood) Units 1 and 2; Byron Generating Station (Byron) Units 1 and 2; Calvert Cliffs Nuclear Power Plant (Calvert Cliffs) Units 1 and 2; and R. E. Ginna Nuclear Power Plant (Ginna). These proposed alternatives defer any further examination of these components during the current ISI intervals based on the referenced EPRI Technical Reports and the proposed performance monitoring plan for the CEG PWR fleet.

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Constellation Energy Generation, LLC (CEG) proposes to achieve less than the ASME Code, Table IWC-2411-1, required examination percentage for the second inspection period of the current fourth ISI interval. This proposed alternative is requested on the basis that performing these examinations creates undue hardship based upon Reference 1 and 2 proposed alternatives or as compared to performing these exams along with the other required exams based upon the requirements of Table IWC-2500-1 and Table IWC-2411-1 in the third period, if necessary.

5. Proposed Alternative and Basis for Use:

In accordance with 10 CFR 50.55a(z)(2), CEG is requesting a proposed alternative from the minimum percentage requirements contained in the ASME Code, Table IWC-2411-1 for the second inspection period at Braidwood Units 1 and 2. The Spring 2024 Unit 1 refueling outage (A1R24) and Fall 2024 Unit 2 refueling outage (A2R24) are the last opportunity to credit any examinations to the second inspection period for Category C-A and C-B welds at Braidwood Units 1 and 2. The rules of IWA-2430 do not allow the second inspection period to be extended more than one year to incorporate another refueling outage. Table IWC-2411-1 requires examination of at least 50% of the Category C-A and C-B components by the end of the second inspection period. CEG currently plans to examine two components in A1R24 at Braidwood Unit 1 and three components in A2R24 at Braidwood Unit 2 to satisfy this requirement. Braidwood Unit 1 and Unit 2 are requesting approval prior to the upcoming refueling outages in April 2024 and October 2024, respectively, to avoid a potential non-compliance with the requirements of ASME Code, Section XI, Paragraph IWC-2411(a), in conjunction with Table IWC-2411-1 should these examinations not be performed.

In the Reference 1 and 2 letters, CEG submitted proposed alternatives associated with examination of steam generator welds and components at Braidwood Generating Station (Braidwood) Units 1 and 2; Byron Generating Station (Byron) Units 1 and 2; Calvert Cliffs Nuclear Power Plant (Calvert Cliffs) Units 1 and 2; and R. E. Ginna Nuclear Power Plant (Ginna). These proposed alternatives defer any further examination of these components during the current intervals based on the referenced EPRI Technical Reports and the proposed performance monitoring plan for the CEG PWR fleet. Performing any of the Category C-A and Category C-B steam generator examinations during the 2024 refueling outages will eliminate the benefit of the Reference 1 and 2 proposed alternatives for Braidwood Station.

Additionally, due to common support tasks (scaffold, insulation removal, etc.) and personnel to access and examine the steam generator welds, there is little benefit to separating the Category C-A and Category C-B welds for the sole purpose of maintaining compliance with the Table IWC-2411-1 distribution requirements; therefore, all remaining Category C-A and C-B examinations would be performed during the third inspection period to take full advantage of the common support tasks if the Reference 1 and 2 proposed alternatives are not approved.

The likelihood of an unknown degradation mechanism having gone undetected and/or initiating and a flaw resulting from this degradation mechanism growing to sufficient size to threaten the integrity of the subject welds before the next inspection is acceptably low based on the limited application and duration of this alternative request.

As discussed above, compliance with ASME Code, Section XI, IWC-2411(a) and Table IWC-2411-1 for the second period constitutes a hardship without a commensurate increase in quality and safety.

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6. Duration of Proposed Alternative:

The proposed alternative to the period distribution requirements of ASME Code, Section XI, Table IWC-2411-1 for Category C-A and Category C-B for Braidwood Units 1 and 2 is requested for the second inspection period of the current fourth ISI interval at Braidwood Station, Units 1 and 2.

7. Precedent:

Letter from H. González (U.S. Nuclear Regulatory Commission) to D. Rhoades (Constellation Energy Generation, LLC), "R. E. Ginna Nuclear Power Plant – Authorization and Safety Evaluation for Proposed Alternative I6R-10, Revision 0 Related to the Steam Generators (EPID L-2021-LLR-0092)," dated March 16, 2023 (ML23073A368)

8. References:

1. Letter from D. Gudger (Constellation Energy Generation, LLC) to U.S. Nuclear Regulatory Commission, "Proposed Alternative for Examinations of Examination Categories B-B, B-D, and C-A Steam Generator Pressure Retaining Welds and Full Penetration Welded Nozzles," dated October 11, 2023 (ML23284A259)
2. Letter from D. Gudger (Constellation Energy Generation, LLC) to U.S. Nuclear Regulatory Commission, "Proposed Alternative for Examinations of Examination Category C-B Steam Generator Nozzle-to-Shell Welds and Nozzle Inside Radius Sections," dated October 10, 2023 (ML23283A003)