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Proprietary Information – Withhold from Public Disclosure Under 10 CFR 2.390

RS-22-071

June 7, 2022

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

Braidwood Station, Unit 1
Renewed Facility Operating License Nos. NPF-72
NRC Docket No. 50-456

Byron Station, Unit 1
Renewed Facility Operating License Nos. NPF-37
NRC Docket No. 50-454

Subject: Braidwood and Byron Stations, Unit 1 Steam Generator License Renewal Response to Commitment 10 – Evaluation of Possible PWSCC Crack Initiation and Propagation in the Steam Generator Channel Head Assembly and Tube-to-Tubesheet Welds

- References:
1. Letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Response to NRC Requests for Additional Information, Set 13, dated February 7, 2014 related to the Braidwood Station, Units 1 and 2 and Byron Station, Units 1 and 2 License Renewal Application," dated March 4, 2014 (ML14063A495)
 2. NUREG-2190, Volume 2, "Safety Evaluation Report Related to the License Renewal of Byron Station, Units 1 and 2, and Braidwood Station, Units 1 and 2," dated December 2015 (ML15350A041)

In accordance with Braidwood Station (Braidwood) and Byron Station (Byron) License Renewal Commitment Number 10, "Steam Generators," Constellation Energy Generation, LLC (CEG) is submitting the following program enhancements to 1) validate that primary water stress corrosion cracking of the divider plate welds to the primary head and tubesheet cladding is not occurring at Braidwood and Byron Unit 1, and 2) validate that primary water stress corrosion cracking of the tube-to-tubesheet welds is not occurring at Braidwood Unit 1 and Byron Unit 1.

Attachments 6 and 7, contain Proprietary Information, hold from Public Disclosure Under 10 CFR 2.390. When separated from this document is decontrolled.

Braidwood and Byron License Renewal Commitment Number 10 part 1) gave the stations three options to fulfill this commitment. Braidwood Unit 1 and Byron Unit 1 have chosen Option 2: Analysis. This option requires the Braidwood and Byron to:

"Perform an analytical evaluation of the steam generator divider plate welds in order to establish a technical basis which concludes that the steam generator reactor coolant pressure boundary is adequately maintained with the presence of steam generator divider plate weld cracking. This analytical evaluation will be submitted to the NRC for review and approval two (2) years prior to entering the associated period of extended operation."

Braidwood and Byron License Renewal Commitment Number 10 part 2) gave the stations three options to fulfill this commitment. Braidwood Unit 1 and Byron Unit 1 have chosen Option 2: Analysis - Susceptibility. This option requires the Braidwood and Byron to:

"Perform an analytical evaluation of the steam generator tube-to-tubesheet welds to determine that the welds are not susceptible to primary water stress corrosion cracking. The evaluation for determining that the tube-to-tubesheet welds are not susceptible to primary water stress corrosion cracking will be submitted to the NRC for review and approval two (2) years prior to entering the associated period of extended operation."

The response to Braidwood and Byron License Renewal Commitment Number 10 is subdivided as follows:

- Attachment 1 provides a Summary of Braidwood and Byron, Unit 1 Steam Generator License Renewal for Possible Crack Initiation and Propagation in the Steam Generator Channel Head Assembly.
- Attachment 2 provides the Affidavit for withholding signed by BWXT, the owner of the proprietary information provided in Attachment 7.
- Attachment 3 provides BWXT Canada Report No. M1702-LR-01 Revision 02, EPRI Steam Generator Divider Plate Design for Possibility of Cracking (Non-Proprietary).
- Attachment 4 provides the Affidavit for withholding signed by BWXT, the owner of the proprietary information provided in Attachment 6.
- Attachment 5 provides BWXT Canada Report No. M2004-SR-01-NP Revision 1, "Byron / Braidwood Unit 1 Flaw Tolerance Evaluation at Primary Head / Tubesheet / Divider Plate Triple Point Analysis Report (Non-Proprietary).
- Attachment 6 provides BWXT Canada Report No. M2004-SR-01 Revision 1, "Byron / Braidwood Unit 1 Flaw Tolerance Evaluation at Primary Head / Tubesheet / Divider Plate Triple Point Analysis Report (Proprietary).

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- Attachment 7 provides BWXT Canada Report No. M1702-LR-01 Revision 02, EPRI Steam Generator Divider Plate Design for Possibility of Cracking (Proprietary).

As Attachments 6 and 7 contain information proprietary to BWXT, it is supported by Affidavits signed by BWXT, the owner of the information (Attachments 6 and 7). The Affidavits set forth the basis on which the information may be withheld from public disclosure by the Nuclear Regulatory Commission (NRC) and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR 2.390, "Public inspections, exemptions, requests for withholding." Accordingly, it is respectfully requested that the information that is proprietary to BWXT be withheld from public disclosure in accordance with 10 CFR 2.390.

Approval of the evaluation provided in Attachments 1, 6 and 7 is requested by October 31, 2023, which will support the License Renewal commitment.

This submittal contains no regulatory commitments. Should you have any questions concerning this submittal, please contact Ms. Lisa Zurawski at (630) 657-2816.

Respectfully,

Kevin Lueshen
Sr. Manager – Licensing
Constellation Energy Generation, LLC

Attachments:

- 1) Summary of Braidwood and Byron, Unit 1 Steam Generator License Renewal for Possible Crack Initiation and Propagation in the Steam Generator Channel Head Assembly
- 2) Affidavit for withholding Attachment 7 signed by BWXT
- 3) BWXT Canada Report No M1702-LR-01 Revision 02, EPRI-Steam Generator Divider Plate Design for Possibility of Cracking (Non-Proprietary)
- 4) Affidavit for withholding Attachment 6 signed by BWXT
- 5) BWXT Canada Report No. M2004-SR-01-NP Revision 1, " Byron / Braidwood Unit 1 Flaw Tolerance Evaluation at Primary Head / Tubesheet / Divider Plate Triple Point Analysis Report (Non-Proprietary)
- 6) BWXT Canada Report No. M2004-SR-01 Revision 1, " Byron / Braidwood Unit 1 Flaw Tolerance Evaluation at Primary Head / Tubesheet / Divider Plate Triple Point Analysis Report (Proprietary)
- 7) BWXT Canada Report No M1702-LR-01 Revision 02, EPRI-Steam Generator Divider Plate Design for Possibility of Cracking (Proprietary)

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cc: NRC Regional Administrator, Region III
NRC Senior Resident Inspector – Braidwood Station
NRC Senior Resident Inspector – Byron Station
Illinois Emergency Management Agency – Division of Nuclear Safety

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