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October 17, 2019

Serial: RA-19-0380

10 CFR 50.90

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

Subject: Brunswick Steam Electric Plant, Unit Nos. 1 and 2
Renewed Facility Operating License Nos. DPR-71 and DPR-62
Docket Nos. 50-325 and 50-324
Response to Request for Additional Information Regarding Advanced
Framatome Methodologies License Amendment Request

Reference: 1. Letter from William R. Gideon (Duke Energy) to the U.S. Nuclear Regulatory Commission Document Control Desk, *Request for License Amendment Regarding Application of Advanced Framatome Methodologies*, dated October 11, 2018, ADAMS Accession Number ML18284A395.

2. NRC E-mail Capture, *Request for Additional Information – Brunswick ATRIUM 11 LAR*, dated October 9, 2019, ADAMS Accession Number ML19283C829.

3. Letter from Gary Peters (Framatome Inc.) to the U.S. Nuclear Regulatory Commission Document Control Desk, *Informational Transmittal of ANP-2637P, Revision 8, "Boiling Water Reactor Licensing Compendium"*, dated June 5, 2019, ADAMS Accession Number ML19158A093.

Ladies and Gentlemen:

By letter dated October 11, 2018 (i.e., Reference 1), Duke Energy Progress, LLC (Duke Energy), submitted a license amendment request (LAR) for the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2. The proposed license amendment revises Technical Specification 5.6.5.b to allow application of Advanced Framatome Methodologies for determining core operating limits in support of loading Framatome fuel type ATRIUM 11.

On October 9, 2019, by electronic mail (i.e., Reference 2), the NRC provided a request for additional information (RAI) regarding the LAR. The subject of this RAI relates to the incorporation of additional conditions on the Best Estimate Enhanced Option-III (BEO-III) and BEO-III with Confirmation Density Algorithm (BEO-III w/CDA) stability methodologies (i.e., ANP-3703P and DPC-NE-1009-P, respectively). Enclosures 1 and 2 contain a markup of Unit 1 and Unit 2 Operating Licenses, respectively, incorporating a proposed License Condition to address the additional conditions from Reference 2.

In addition to responding to the Reference 2 RAI, this transmittal letter updates the LAR reference to ANP-2637P, *Boiling Water Reactor Licensing Compendium*, from Revision 7 to Revision 8. Framatome provided Revision 8 to the NRC for information by letter dated June 5, 2019 (i.e., Reference 3). Revision 8 includes changes to individually address Safety Evaluation Report (SER) restrictions for ANP-10300P-A, *AURORA-B: An Evaluation Model for Boiling Water Reactors; Application to Transient and Accident Scenarios*. As discussed in Reference 1, Framatome licensing methodologies presented in ANP-2637P are applicable to the ATRIUM 11 fuel type and operation of BSEP in the currently approved operating domain.

Please refer any questions regarding this submittal to Ms. Sabrina Salazar, Manager – Nuclear Support Services, at (910) 832-3480.

I declare, under penalty of perjury, that the foregoing is true and correct. Executed on October 17, 2019.

Sincerely,

A handwritten signature in cursive script, appearing to read "John A. Krakuszeski".

John A. Krakuszeski

SBY/sby

Enclosures:

- 1: Operating License, Appendix B Mark-Up – Unit 1
- 2: Operating License, Appendix B Mark-Up – Unit 2

cc (with all Enclosures):

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Operating License, Appendix B Mark-Up – Unit 1

Amendment Number	Additional Conditions	Implementation Date
XXX	When determining the core operating limits, the Licensee shall apply the conditions outlined in the NRC's Request for Additional Information dated October 9, 2019, when applying ANP-3703P, BEO-III Analysis Methodology for Brunswick Using RAMONA5-FA, and DPC-NE-1009-P, Brunswick Nuclear Plant Implementation of Best-estimate Enhanced Option-III (i.e., Technical Specification 5.6.5.b.19 and 5.6.5.b.22, respectively).	Upon implementation of Amendment No. XXX.

This is a new Unit 1 Page App. B-6

Operating License, Appendix B Mark-Up – Unit 2

Amendment Number	Additional Conditions	Implementation Date
XXX	When determining the core operating limits, the Licensee shall apply the conditions outlined in the NRC's Request for Additional Information dated October 9, 2019, when applying ANP-3703P, BEO-III Analysis Methodology for Brunswick Using RAMONA5-FA, and DPC-NE-1009-P, Brunswick Nuclear Plant Implementation of Best-estimate Enhanced Option-III (i.e., Technical Specification 5.6.5.b.19 and 5.6.5.b.22, respectively).	Upon implementation of Amendment No. XXX.

This is a new Unit 2 Page App. B-6