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December 11, 2018

Serial: RA-18-0246 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
Revised Response to Request for Additional Information - Request for License Amendment to Revise the Technical Specifications to Relocate the Pressure-Temperature Limit Curves to a Pressure and Temperature Limits Report

References:

1. Letter from William R. Gideon (Duke Energy) to the U.S. Nuclear Regulatory Commission Document Control Desk, *Request for License Amendment to Revise the Technical Specifications to Relocate the Pressure-Temperature Limit Curves to a Pressure and Temperature Limits Report,* dated April 4, 2018, ADAMS Accession Number ML18094B058

2. Letter from William R. Gideon (Duke Energy) to the U.S. Nuclear Regulatory Commission Document Control Desk, *Supplemental Information to Request for License Amendment to Revise the Technical Specifications to Relocate the Pressure-Temperature Limit Curves to a Pressure and Temperature Limits Report,* dated May 29, 2018, ADAMS Accession Number ML18149A487

3. Letter from William R. Gideon (Duke Energy) to the U.S. Nuclear Regulatory Commission Document Control Desk, *Response to Request for Additional Information - Request for License Amendment to Revise the Technical Specifications to Relocate the Pressure-Temperature Limit Curves to a Pressure and Temperature Limits Report*, dated September 27, 2018, ADAMS Accession Number ML18270A390

Ladies and Gentlemen:

By letter dated April 4, 2018, as supplemented on May 29, 2018 (i.e., References 1 and 2), 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 amendment requested relocation of the Technical Specifications pressure-temperature (P-T) limits to a licensee-controlled Pressure and Temperature Limits Report (PTLR). Additionally, the current 32-effective full power year (EFPY) P-T limits are being updated to 54-EFPY P-T limits.

On September 27, 2018, (i.e., Reference 3), Duke Energy responded to a request for additional information (RAI) regarding the proposed amendment. Subsequently, the need to revise the response to SNPB RAI 2 was identified. The revised response is included in the enclosure.

This document contains no new regulatory commitments.

I declare, under penalty of perjury, that the foregoing is true and correct. Executed on December 11, 2018.

Sincerely,

William R. Gideon

MAT/mat

Enclosure:

Revised Response to SNPB RAI 2

cc (with Enclosure):

U.S. Nuclear Regulatory Commission, Region II
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Revised Response to SNPB RAI 2

By letter dated April 4, 2018, as supplemented on May 29, 2018, 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 amendment requested relocation of the Technical Specifications pressure-temperature (P-T) limits to a licensee-controlled Pressure and Temperature Limits Report (PTLR). Additionally, the current 32-effective full power year (EFPY) P-T limits are being updated to 54-EFPY P-T limits.

On September 27, 2018, Duke Energy responded to a request for additional information (RAI) regarding the proposed amendment. Subsequently, the need to revise the response to SNPB RAI 2 was identified. The revised response is provided below.

SNPB RAI 2

In the supplement to the LAR dated May 29, 2018, (WCAP-17660-NP), in Section 2.1 in the subsection titled, "Fuel Cycle Modeling," the licensee described the approach used to determine the reactor pressure vessel neutron fluence for future nominal Maximum Extended Load Line Limit Analysis Plus (MELLLA+) equilibrium fuel cycles. The licensee also provided tables with assumed relative power fraction (RPF), axial power, and axial void fraction distribution inputs to the fluence calculational model for operating under MELLLA+ conditions to be used to confirm that the actual core design is comparable to the nominal. If the actual RPFs, axial power, or axial void fraction distributions are not bounded by those nominally assumed when MELLLA+ is implemented at Brunswick, updated fluence values would need to be determined for input to P-T limits re-assessment. However, the licensee does not describe an approach for determining updated fluence values.

Describe the approach for determining updated fluence values if the actual RPFs, axial power, or axial void fraction distributions are not bounded by those assumed in the WCAP-17660-NP fluence analysis when MELLLA+ is implemented at BSEP.

Response to SNPB RAI 2

If the assumptions supporting the fluence projections in WCAP-17660-NP are not implemented or are not realistic for actual MELLLA+ operating conditions, then the actual neutron fluence will diverge from the fluence projections. Neutron fluence will be re-evaluated on an as-needed basis to include operating data and new fuel projections.