UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 8, 2022

Mr. John A. Krakuszeski
Site Vice President
Brunswick Steam Electric Plant
Duke Energy Progress, LLC
8470 River Rd., SE (M/C BNP001)
Southport, NC 28461

SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2 – CORRECTION TO AMENDMENTS TO REVISE STANDBY LIQUID CONTROL SYSTEM BORON SOLUTION STORAGE TANK VOLUME TECHNICAL SPECIFICATIONS (EPID L-2021-LLA-0022)

Dear Mr. Krakuszeski:

On December 14, 2021 (Agencywide Documents Access and Management System Accession No. ML21281A138), the U.S. Nuclear Regulatory Commission (NRC) issued Amendment Nos. 306 and 334 to Renewed Facility Operating License Nos. DPR-71 and DPR-62 for the Brunswick Steam Electric Plant, Units 1 and 2 (Brunswick), respectively. Following issuance of these amendments, NRC identified that incorrect amendment numbers were inadvertently used. The purpose of this letter is to correct the Amendment Nos. within the December 14, 2021, letter from 306 to 307, and 334 to 335, for Brunswick, Units 1 and 2, respectively. Enclosed, please find the corrected amendments, license pages, and safety evaluation page.

The amendments were in response to your request dated February 23, 2021 (ADAMS Accession No. ML21054A197). The amendments revised Figure 3.1.7-1, “Sodium Pentaborate Solution Volume Versus Concentration Requirements,” of Technical Specification (TS) 3.1.7, “Standby Liquid Control (SLC) System,” to increase the minimum boron solution storage tank volume requirements.

The NRC concludes that the corrections are editorial in nature and do not change the staff’s previous conclusion in the safety evaluation for these Amendments, nor do they affect the no significant hazards consideration, as published in the *Federal Register* on April 20, 2021 (86 FR 20529).

If you have any questions regarding this matter, please contact me at (301) 415-0272 or by e-mail at Lucas.Haeg@nrc.gov.

Sincerely,

***/RA/***

Luke Haeg, Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos.: 50-325 and 50-324

Enclosures:
1. Corrected amendments
2. Corrected license pages
3. Corrected safety evaluation page

cc: Listserv

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DUKE ENERGY PROGRESS, LLC

DOCKET NO. 50-325

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 307
Renewed License No. DPR-71

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment filed by Duke Energy Progress, LLC (the licensee), dated February 23, 2021, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications, as indicated in the attachment to this license amendment; and paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-71 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 307, are hereby incorporated in the license. Duke Energy Progress, LLC shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented prior to startup from the 2022 Unit 1 refueling outage.

FOR THE NUCLEAR REGULATORY COMMISSION

***Original signed by David J. Wrona***

David J. Wrona, Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachments:
Changes to the Renewed Operating
License, Technical Specifications

Date of Issuance: December 14, 2021

ATTACHMENT TO LICENSE AMENDMENT NO. 307

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 1

RENEWED FACILITY OPERATING LICENSE NO. DPR-71

DOCKET NO. 50-325

Replace page 6 of Renewed Facility Operating License No. DPR-71 with the attached page 6.

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

| Remove Pages | Insert Pages |
|---|---|
| 3.1-23 | 3.1-23 |

(c) Transition License Conditions

1. Before achieving full compliance with 10 CFR 50.48(c), as specified by 2. below, risk-informed changes to the licensee's fire protection program may not be made without prior NRC review and approval unless the change has been demonstrated to have no more than a minimal risk impact, as described in 2. above.

2. The licensee shall implement the modifications to its facility, as described in Table S-1, "Plant Modifications Committed," of Duke letter BSEP 14-0122, dated November 20, 2014, to complete the transition to full compliance with 10 CFR 50.48(c) by the startup of the second refueling outage for each unit after issuance of the safety evaluation. The licensee shall maintain appropriate compensatory measures in place until completion of these modifications.

3. The licensee shall complete all implementation items, except item 9, listed in LAR Attachment S, Table S-2, "Implementation Items," of Duke letter BSEP 14-0122, dated November 20, 2014, within 180 days after NRC approval unless the 180$^{th}$ day falls within an outage window; then, in that case, completion of the implementation items, except item 9, shall occur no later than 60 days after startup from that particular outage. The licensee shall complete implementation of LAR Attachment S, Table S-2, Item 9, within 180 days after the startup of the second refueling outage for each unit after issuance of the safety evaluation.

C. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; and is subject to all applicable provisions hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level
The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 2923 megawatts thermal.

(2) Technical Specifications
The Technical Specifications contained in Appendix A, as revised through Amendment No. 307, are hereby incorporated in the license. Duke Energy Progress, LLC shall operate the facility in accordance with the Technical Specifications.

For Surveillance Requirements (SRs) that are new in Amendment 203 to Renewed Facility Operating License DPR-71, the first performance is due at the end of the first surveillance interval that begins at implementation of Amendment 203. For SRs that existed prior to Amendment 203, including SRs with modified acceptance criteria and SRs whose frequency of

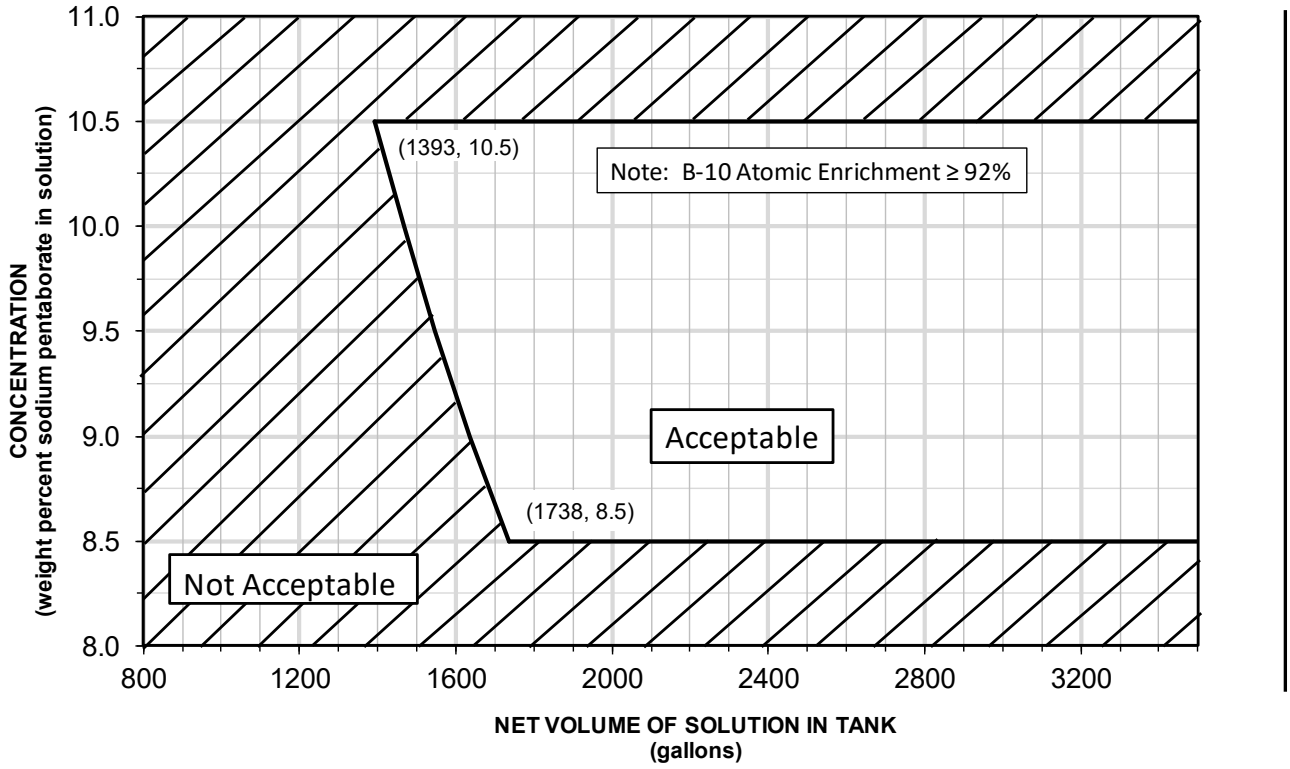


**Figure 3.1.7-1 (page 1 of 1)**
**Sodium Pentaborate Solution Volume**
**Versus Concertation Requirements**

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DUKE ENERGY PROGRESS, LLC

DOCKET NO. 50-324

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 335
Renewed License No. DPR-62

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment filed by Duke Energy Progress, LLC (the licensee), dated December 14, 2021, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications, as indicated in the attachment to this license amendment; and paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-62 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 335, are hereby incorporated in the license. Duke Energy Progress, LLC shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented prior to startup from the 2023 Unit 2 refueling outage.

FOR THE NUCLEAR REGULATORY COMMISSION

***Original signed by David J. Wrona***

David J. Wrona, Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachments:
Changes to the Renewed Operating
License, Technical Specifications

Date of Issuance: December 14, 2021

ATTACHMENT TO LICENSE AMENDMENT NO. 335

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2

FACILITY OPERATING LICENSE NO. DPR-62

DOCKET NO. 50-324

Replace page 6 of Renewed Facility Operating License No. DPR-62 with the attached page 6.

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

| Remove Pages | Insert Pages |
|---|---|
| 3.1-23 | 3.1-23 |

(c) Transition License Conditions

1. Before achieving full compliance with 10 CFR 50.48(c), as specified by 2. below, risk-informed changes to the licensee's fire protection program may not be made without prior NRC review and approval unless the change has been demonstrated to have no more than a minimal risk impact, as described in 2. above.

2. The licensee shall implement the modifications to its facility, as described in Table S-1, "Plant Modifications Committed," of Duke letter BSEP 14-0122, dated November 20, 2014, to complete the transition to full compliance with 10 CFR 50.48(c) by the startup of the second refueling outage for each unit after issuance of the safety evaluation. The licensee shall maintain appropriate compensatory measures in place until completion of these modifications.

3. The licensee shall complete all implementation items, except Item 9, listed in LAR Attachment S, Table S-2, "Implementation Items," of Duke letter BSEP 14-0122, dated November 20, 2014, within 180 days after NRC approval unless the 180$^{th}$ day falls within an outage window; then, in that case, completion of the implementation items, except item 9, shall occur no later than 60 days after startup from that particular outage. The licensee shall complete implementation of LAR Attachment S, Table S-2, Item 9, within 180 days after the startup of the second refueling outage for each unit after issuance of the safety evaluation.

C. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level
The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 2923 megawatts (thermal).

(2) Technical Specifications
The Technical Specifications contained in Appendix A, as revised through Amendment No. 335, are hereby incorporated in the license. Duke Energy Progress, LLC shall operate the facility in accordance with the Technical Specifications.

For Surveillance Requirements (SRs) that are new in Amendment 233 to Renewed Facility Operating License DPR-62, the first performance is due at the end of the first surveillance interval that begins at implementation of Amendment 233. For SRs that existed prior to Amendment 233,

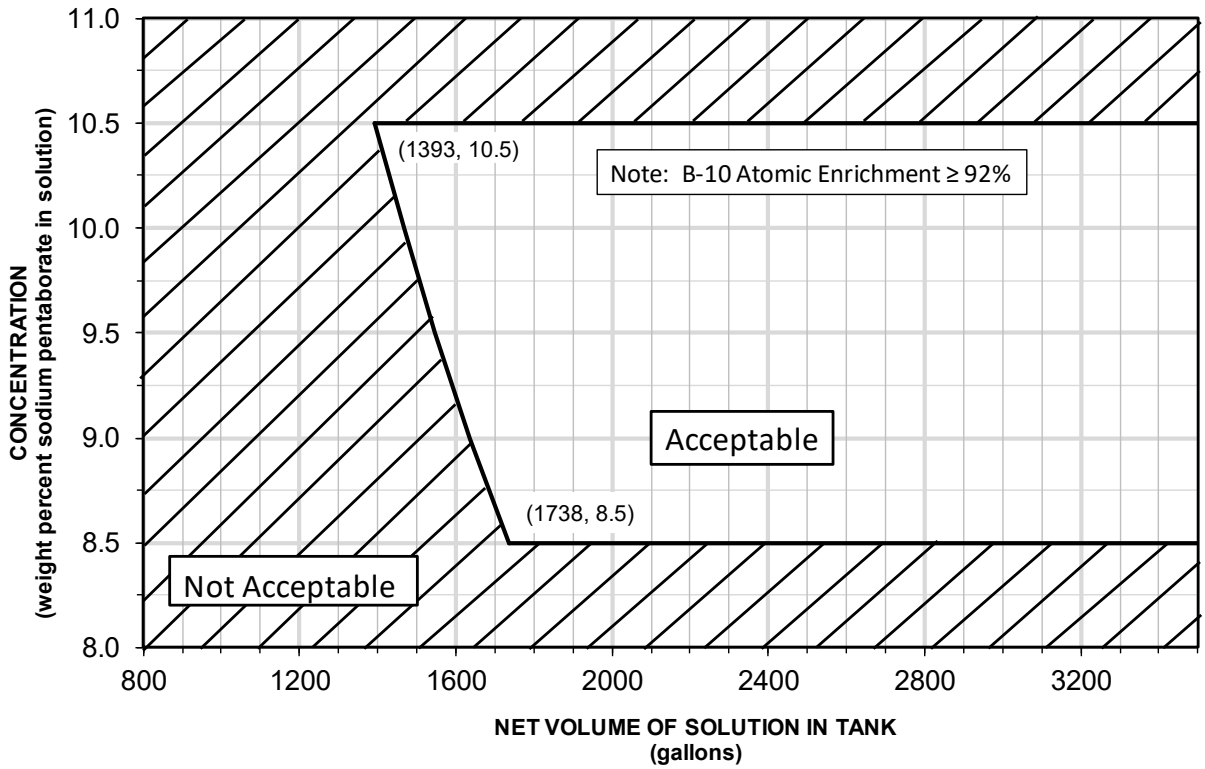


**Figure 3.1.7-1 (page 1 of 1)**
**Sodium Pentaborate Solution Volume**
**Versus Concertation Requirements**

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 307 AND 335

TO RENEWED FACILITY OPERATING LICENSE NOS. DPR-71 AND DPR-62

DUKE ENERGY PROGRESS, LLC

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2

DOCKET NOS. 50-325 AND 50-324

## 1.0 INTRODUCTION

By application dated February 23, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21054A197), Duke Energy Progress, LLC (Duke Energy, the licensee), submitted a license amendment request (LAR) to change the Facility Operating License Nos. DPR-71 and DPR-62 for Brunswick Steam Electric Plant, Units 1 and 2 (Brunswick). The proposed change increases the minimum boron solution storage tank volume requirements of the plant Technical Specification (TS) Figure 3.1.7-1, "Sodium Pentaborate Solution Volume Versus Concentration Requirements," for the Standby Liquid Control (SLC) system.

## 2.0 REGULATORY EVALUATION

### 2.1. Proposed Change

Brunswick currently uses a sodium pentaborate (SPB) solution with boron enriched to ≥ 92 atom-percent with boron-10 (B-10) isotope. The current net volume (gallons) of solution in tank versus concentration (weight percent SPB in solution) limits shown in TS Figure 3.1.7-1 were established to ensure that the SLC system injects a quantity of boron which produces a concentration of 720 parts per million (ppm) equivalent of natural boron in the reactor coolant at 70°F with normal reactor vessel water level. The requirement of this figure was established when implementing the NRC-approved Maximum Extended Load Line Limit Analysis Plus (MELLLA+) for Brunswick, "Issuance of Amendment Regarding Core Flow Operating Range Expansion (MELLLA+)," dated September 18, 2018 (ADAMS Accession No. ML18172A258).

In order to achieve future core reload flexibility for Brunswick and to add margin to the SLC shutdown capability, the licensee plans to increase natural boron concentration from 720 ppm equivalent of natural boron to 925 ppm in the reactor coolant. As a result, the proposed change would increase the minimum boron solution storage tank volume requirements of TS Figure 3.1.7-1 by shifting the left boundary of the "Acceptable" region of TS Figure 3.1.7-1 to the right. The licensee proposes that the existing minimum volume at a concentration of 10.5 weight

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| DATE | 3/8/2022 | | |

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