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

April 10, 2026

Mr. Shawn Gibby
Vice President
Nuclear Engineering
Duke Energy
525 S. Tryon St.
Charlotte, NC 28202

SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2; CATAWBA NUCLEAR STATION, UNITS 1 AND 2; MCGUIRE NUCLEAR STATION, UNITS 1 AND 2; AND H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT 2-ISSUANCE OF AMENDMENTS TO REVISE TECHNICAL SPECIFICATIONS TO USE ONLINE MONITORING METHODOLOGY (EPID L-2025-LLA-0165)

Dear Mr. Gibby:

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has issued the following enclosed Amendment Nos. 314 and 342 to Renewed Facility Operating License Nos. DPR-71 and DPR-62 for the Brunswick Steam Electric Plant, Unit Nos. 1 and 2 (BSEP), respectively; Amendment Nos. 324 and 320 to Renewed Facility Operating License Nos. NPF-35 and NPF-52 for the Catawba Nuclear Station, Unit Nos. 1 and 2 (CNS), respectively; Amendment Nos. 334 and 313 to Renewed Facility Operating License Nos. NPF-9 and NPF-17 for the McGuire Nuclear Station, Unit Nos. 1 and 2 (MNS), respectively; and Amendment No. 282 for the Renewed Facility Operating License No. DPR-23 for the H. B. Robinson Steam Electric Plant, Unit No. 2 (HBRSEP).

The license amendments consist of changes to the license and technical specifications (TSs) in response to your application dated October 9, 2025. The amendments revise BSEP, CNS, MNS, and HBRSEP TS 1.1, “Use and Application Definitions,” and adds new BSEP TS 5.5.16, CNS TS 5.5.18, MNS TS 5.5.19, and HBRSEP TS 5.5.19, “Online Monitoring Program.” The amendments would allow use of an online monitoring (OLM) methodology as the technical basis to switch from time-based surveillance frequency for channel calibrations to a condition-based calibration frequency based on OLM results. The proposed amendments are based on the NRC staff-approved Topical Report AMS-TR-0720R2-A, “Online Monitoring Technology to Extend Calibration Intervals of Nuclear Plant Pressure Transmitters.”

A copy of the NRC staff’s safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission’s monthly *Federal Register* notice.

If you have any questions, please contact me at (301) 415-1009 or by e-mail at Shawn.Williams@nrc.gov.

Sincerely,

/RA/

Shawn A. Williams, Senior Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos.: 50-325, 50-324
50-413, 50-414, 50-369,
50-370, 50-261

Enclosures:
1. Amendment No. 314 to DPR-71 (Brunswick 1)
2. Amendment No. 342 to DPR-62 (Brunswick 2)
3. Amendment No. 324 to NPF-35 (Catawba 1)
4. Amendment No. 320 to NPF-52 (Catawba 2)
5. Amendment No. 334 to NPF-9 (McGuire 1)
6. Amendment No. 313 to NPF-17 (McGuire 2)
7. Amendment No. 282 to DPR-23 (Robinson 2)
8. Safety Evaluation

cc: Listserv

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

DUKE ENERGY PROGRESS, LLC

DOCKET NO. 50-325

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 314
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 October 9, 2025, 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. 314, 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 within six months of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

MICHAEL MARKLEY

Digitally signed by MICHAEL MARKLEY
Date: 2026.04.10 08:55:55 -04'00'

Michael Markley, Chief
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility Operating Licenses and Technical Specifications

Date of Issuance: April 10, 2026

ATTACHMENT TO

DUKE ENERGY PROGRESS, LLC

DOCKET NO. 50-325

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 1

AMENDMENT NO. 314

RENEWED FACILITY OPERATING LICENSE NO. DPR-71

Replace the following page of the Renewed Facility Operating License with the attached revised page. The revised page is identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
DPR-71, Page 6	DPR-71, Page 6

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

Remove	Insert
1.1-1	1.1-1
5.0-17b	5.0-17b
- - - - - -	5.0-17c

(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 180th 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. 314, 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

1.0 USE AND APPLICATION

1.1 Definitions

----------NOTE ----------
The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases.

Term	Definition
ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.
AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)	The APLHGR shall be applicable to a specific planar height and is equal to the sum of the heat generation rate per unit length of fuel rod for all the fuel rods in the specified bundle at the specified height divided by the number of fuel rods in the fuel bundle at the height.
CHANNEL CALIBRATION	A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds within the necessary range and accuracy to known values of the parameter that the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel, including the required sensor (excluding transmitters in the Online Monitoring Program), alarm, display, and trip functions, and shall include the CHANNEL FUNCTIONAL TEST. Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an inplace qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping, or total channel steps so that the entire channel is calibrated.
CHANNEL CHECK	A CHANNEL CHECK shall be the qualitative assessment, by observation, of channel behavior during operation. This determination shall include, where possible, comparison of the channel indication and status to other indications or status derived from independent instrument channels measuring the same parameter.

(continued)

5.5 Programs and Manuals

5.5.15 Risk-Informed Completion Time Program (continued)

d. For emergent conditions, if the extent of condition evaluation for inoperable structures, systems, or components (SSCs) is not complete prior to exceeding the Completion Time, the RICT shall account for the increased possibility of common cause failure (CCF) by either:

1. Numerically accounting for the increased possibility of CCF in the RICT calculation; or

2. Risk Management Actions (RMAs) not already credited in the RICT calculation shall be implemented that support redundant or diverse SSCs that perform the function(s) of the inoperable SSCs, and, if practicable, reduce the frequency of initiating events that challenge the function(s) performed by the inoperable SSCs.

e. The risk assessment approaches and methods shall be acceptable to the NRC. The plant PRA shall be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant, as specified in Regulatory Guide 1.200, Revision 2. Methods to assess the risk from extending the Completion Times must be PRA methods used to support Amendment No. 308, or other methods approved by the NRC for generic use; and any change in the PRA methods to assess risk that are outside these approval boundaries require prior NRC approval.

5.5.16 Online Monitoring Program

This program provides controls to determine the need for calibration for pressure, level, and flow transmitters using condition monitoring based on drift analysis. It also provides a means for in-situ dynamic response assessment using the noise analysis technique to detect failure modes that are not detectable by drift monitoring.

The Online Monitoring Program shall be implemented in accordance with AMS-TR-0720R2-A, “Online Monitoring Technology to Extend Calibration Intervals of Nuclear Plant Pressure Transmitters” (proprietary version). The program shall include the following elements:

a. The Online Monitoring Program shall contain a list of transmitters included in the program, determined in accordance with AMS-TR-0720R2-A.

(continued)

5.5 Programs and Manuals

5.5.16 Online Monitoring Program (continued)

b. Online monitoring evaluation of transmitters in the program shall include the following:

1) Analysis of online monitoring data to identify those transmitters that require a calibration check and those that do not require a calibration check;

2) Performance of online monitoring using noise analysis to assess in-situ dynamic response of transmitters that can affect response time performance;

3) Documentation of the results of the online monitoring data analysis.

c. Performance of calibration checks during the next refueling outage of any transmitters identified as requiring a calibration check or that were not evaluated in accordance with Paragraph b.

d. Performance of calibration checks at the backstop interval determined in accordance with AMS-TR-0720R2-A.

e. Appropriate actions in the event calibration checks are not performed as specified by the program.

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

DUKE ENERGY PROGRESS, LLC

DOCKET NO. 50-324

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 342
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 October 9, 2025, 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. 342, 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 within six months of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

MICHAEL MARKLEY

Digitally signed by MICHAEL MARKLEY
Date: 2026.04.10 08:57:49 -04'00'

Michael Markley, Chief
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility Operating Licenses and Technical Specifications

Date of Issuance: April 10, 2026

ATTACHMENT TO

DUKE ENERGY PROGRESS, LLC

DOCKET NO. 50-324

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2

AMENDMENT NO. 342

RENEWED FACILITY OPERATING LICENSE NO. DPR-62

Replace the following page of the Renewed Facility Operating License with the attached revised page. The revised page is identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
DPR-62, Page 6	DPR-62, Page 6

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

Remove	Insert
1.1-1	1.1-1
5.0-17b	5.0-17b
- - - - -	5.0-17c

(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 180th 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. 342, 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,

1.0 USE AND APPLICATION

1.1 Definitions

----------NOTE----------
The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases.

Term	Definition
ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.
AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)	The APLHGR shall be applicable to a specific planar height and is equal to the sum of the heat generation rate per unit length of fuel rod for all the fuel rods in the specified bundle at the specified height divided by the number of fuel rods in the fuel bundle at the height.
CHANNEL CALIBRATION	A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds within the necessary range and accuracy to known values of the parameter that the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel, including the required sensor (excluding transmitters in the Online Monitoring Program), alarm, display, and trip functions, and shall include the CHANNEL FUNCTIONAL TEST. Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an inplace qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping, or total channel steps so that the entire channel is calibrated.
CHANNEL CHECK	A CHANNEL CHECK shall be the qualitative assessment, by observation, of channel behavior during operation. This determination shall include, where possible, comparison of the channel indication and status to other indications or status derived from independent instrument channels measuring the same parameter.

(continued)

5.5 Programs and Manuals

5.5.15 Risk-Informed Completion Time Program (continued)

d. For emergent conditions, if the extent of condition evaluation for inoperable structures, systems, or components (SSCs) is not complete prior to exceeding the Completion Time, the RICT shall account for the increased possibility of common cause failure (CCF) by either:

1. Numerically accounting for the increased possibility of CCF in the RICT calculation; or

2. Risk Management Actions (RMAs) not already credited in the RICT calculation shall be implemented that support redundant or diverse SSCs that perform the function(s) of the inoperable SSCs, and, if practicable, reduce the frequency of initiating events that challenge the function(s) performed by the inoperable SSCs.

e. The risk assessment approaches and methods shall be acceptable to the NRC. The plant PRA shall be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant, as specified in Regulatory Guide 1.200, Revision 2. Methods to assess the risk from extending the Completion Times must be PRA methods used to support Amendment No. 336, or other methods approved by the NRC for generic use; and any change in the PRA methods to assess risk that are outside these approval boundaries require prior NRC approval.

5.5.16 Online Monitoring Program

This program provides controls to determine the need for calibration for pressure, level, and flow transmitters using condition monitoring based on drift analysis. It also provides a means for in-situ dynamic response assessment using the noise analysis technique to detect failure modes that are not detectable by drift monitoring.

The Online Monitoring Program shall be implemented in accordance with AMS-TR-0720R2-A, “Online Monitoring Technology to Extend Calibration Intervals of Nuclear Plant Pressure Transmitters” (proprietary version). The program shall include the following elements:

a. The Online Monitoring Program shall contain a list of transmitters included in the program, determined in accordance with AMS-TR-0720R2-A.

(continued)

5.5 Programs and Manuals

5.5.16 Online Monitoring Program (continued)

b. Online monitoring evaluation of transmitters in the program shall include the following:

1) Analysis of online monitoring data to identify those transmitters that require a calibration check and those that do not require a calibration check;

2) Performance of online monitoring using noise analysis to assess in-situ dynamic response of transmitters that can affect response time performance;

3) Documentation of the results of the online monitoring data analysis.

c. Performance of calibration checks during the next refueling outage of any transmitters identified as requiring a calibration check or that were not evaluated in accordance with Paragraph b.

d. Performance of calibration checks at the backstop interval determined in accordance with AMS-TR-0720R2-A.

e. Appropriate actions in the event calibration checks are not performed as specified by the program.

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

DUKE ENERGY CAROLINAS, LLC

NORTH CAROLINA ELECTRIC MEMBERSHIP CORPORATION

DOCKET NO. 50-413

CATAWBA NUCLEAR STATION, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 324
Renewed License No. NPF-35

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

   A. The application for amendment filed by Duke Energy Carolinas, LLC (the licensee), dated October 9,2025, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as 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 set forth in 10 CFR Chapter I;

   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 hereby amended by page 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. NPF-35 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 324, which are attached hereto, are hereby incorporated into this renewed operating license. Duke Energy Carolinas, 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 within six months of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

MICHAEL MARKLEY

Digitally signed by MICHAEL MARKLEY
Date: 2026.04.10 08:59:14 -04'00'

Michael Markley, Chief
Plant Licensing Branch II 1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility Operating Licenses and Technical Specifications

Date of Issuance: April 10, 2026

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

DUKE ENERGY CAROLINAS, LLC

NORTH CAROLINA ELECTRIC MEMBERSHIP CORPORATION

DOCKET NO. 50-414

CATAWBA NUCLEAR STATION, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 320
Renewed License No. NPF-52

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

   A. The application for amendment filed by the Duke Energy Carolinas, LLC (the licensee), dated October 9, 2025, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as 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 set forth in 10 CFR Chapter I;

   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 hereby amended by page 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. NPF-52 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 320, which are attached hereto, are hereby incorporated into this renewed operating license. Duke Energy Carolinas, 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 within six months of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

MICHAEL MARKLEY

Digitally signed by MICHAEL MARKLEY
Date: 2026.04.10 09:00:02 -04'00'

Michael Markley, Chief
Plant Licensing Branch II 1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility Operating Licenses and Technical Specifications

Date of Issuance: April 10, 2026

ATTACHMENT TO

DUKE ENERGY CAROLINAS, LLC

NORTH CAROLINA ELECTRIC MEMBERSHIP CORPORATION

DOCKET NO. 50-413

CATAWBA NUCLEAR STATION, UNIT 1

AMENDMENT NO. 324

RENEWED FACILITY OPERATING LICENSE NO NPF-35

AND

DOCKET NO. 50-414

CATAWBA NUCLEAR STATION, UNIT 2

AMENDMENT NO. 320

RENEWED FACILITY OPERATING LICENSE NO. NPF-52

Replace the following pages of the Renewed Facility Operating Licenses with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
NPF-35, Page 4	NPF-35, Page 4
NPF-52, Page 4	NPF-52, Page 4

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

Remove	Insert
1.1-1	1.1-1
5.5-19	5.5-19
- - - - -	5.5-20

(2) TECHNICAL SPECIFICATIONS

The Technical Specifications contained in Appendix A, as revised through Amendment No. 324, which are attached hereto, are hereby incorporated into this renewed operating license. Duke Energy Carolinas, LLC shall operate the facility in accordance with the Technical Specifications.

(3) Updated Final Safety Analysis Report

The Updated Final Safety Analysis Report supplement submitted pursuant to 10 CFR 54.21(d), as revised on December 16, 2002, describes certain future activities to be completed before the period of extended operation. Duke shall complete these activities no later than December 6, 2024, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

The Updated Final Safety Analysis Report supplement as revised on December 16, 2002, described above, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71 (e)(4), following issuance of this renewed operating license. Until that update is complete, Duke may make changes to the programs described in such supplement without prior Commission approval, provided that Duke evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

(4) Antitrust Conditions

Duke Energy Carolinas, LLC shall comply with the antitrust conditions delineated in Appendix C to this renewed operating license.

(5) Fire Protection Program

Duke Energy Carolinas, LLC shall implement and maintain in effect all provisions of the approved fire protection program that complies with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the licensee amendment request dated September 25, 2013; as supplemented by letters dated January 13, 2015; January 28, 2015; February 27, 2015; March 30, 2015; April 28, 2015; July 15, 2015; August 14, 2015; September 3, 2015; December 11, 2015; January 7, 2016; March 23, 2016; June 15, 2016; August 2, 2016; September 7, 2016; and, January 26, 2017, as approved in the SE dated February 8, 2017. Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition or requirement would require prior NRC approval, the licensee may make changes to the fire protection program without prior approval of the Commission if those changes satisfy the provisions set forth in 10 CFR 50.48(a) and 10 CFR 50.48(c), the change does not require a change to a technical specification or a license condition, and the criteria listed below are satisfied.

(2) TECHNICAL SPECIFICATIONS

The Technical Specifications contained in Appendix A, as revised through Amendment No. 320 which are attached hereto, are hereby incorporated into this renewed operating license. Duke Energy Carolinas, LLC shall operate the facility in accordance with the Technical Specifications.

(3) Updated Final Safety Analysis Report

The Updated Final Safety Analysis Report supplement submitted pursuant to 10 CFR 54.21(d), as revised on December 16, 2002, describes certain future activities to be completed before the period of extended operation. Duke shall complete these activities no later than December 6, 2024, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

The Updated Final Safety Analysis Report supplement as revised on December 16, 2002, described above, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71 (e)(4), following issuance of this renewed operating license. Until that update is complete, Duke may make changes to the programs described in such supplement without prior Commission approval, provided that Duke evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

(4) Antitrust Conditions

Duke Energy Carolinas, LLC shall comply with the antitrust conditions delineated in Appendix C to this renewed operating license.

(5) Fire Protection Program

Duke Energy Carolinas, LLC shall implement and maintain in effect all provisions of the approved fire protection program that complies with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the licensee amendment request dated September 25, 2013; as supplemented by letters dated January 13, 2015; January 28, 2015; February 27, 2015; March 30, 2015; April 28, 2015; July 15, 2015; August 14, 2015; September 3, 2015; December 11, 2015; January 7, 2016; March 23, 2016; June 15, 2016; August 2, 2016; September 7, 2016; and, January 26, 2017, as approved in the SE dated February 8, 2017. Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition or requirement would require prior NRC approval, the licensee may make changes to the fire protection program without prior approval of the Commission if those changes satisfy the provisions set forth in 10 CFR 50.48(a) and 10 CFR 50.48(c), the change does not require a change to a technical specification or a license condition, and the criteria listed below are satisfied.

1.0 USE AND APPLICATION

1.1 Definitions

----------NOTE----------
The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases.

Term	Definition
ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.
ACTUATION LOGIC TEST	An ACTUATION LOGIC TEST shall be the application of various simulated or actual input combinations in conjunction with each possible interlock logic state and the verification of the required logic output. The ACTUATION LOGIC TEST, as a minimum, shall include a continuity check of output devices.
AXIAL FLUX DIFFERENCE (AFD)	AFD shall be the difference in normalized flux signals between the top and bottom halves of a two section excore neutron detector.
CHANNEL CALIBRATION	A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel so that it responds within the required range and accuracy to known input. The CHANNEL CALIBRATION shall encompass the entire channel, including the required sensor, alarm, interlock, display, and trip functions (excluding transmitters in the Online Monitoring Program). Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an inplace qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. Whenever a sensing element is replaced, the next required CHANNEL CALIBRATION shall include an inplace cross calibration that compares the other sensing elements with the recently installed sensing element. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping calibrations or total channel steps so that the entire channel is calibrated.

(continued)

5.5 Programs and Manuals (continued)

5.5.17 Surveillance Frequency Control Program

This Program provides controls for Surveillance Frequencies. The program shall ensure that the Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operations are met.

a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those Surveillance Requirements for which the Frequency is controlled by the program.

b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1.

c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

5.5.18 Online Monitoring Program

This program provides controls to determine the need for calibration for pressure, level, and flow transmitters using condition monitoring based on drift analysis. It also provides a means for in-situ dynamic response assessment using the noise analysis technique to detect failure modes that are not detectable by drift monitoring.

The Online Monitoring Program shall be implemented in accordance with AMS-TR-0720R2-A, “Online Monitoring Technology to Extend Calibration Intervals of Nuclear Plant Pressure Transmitters” (proprietary version). The program shall include the following elements:

a. The Online Monitoring Program shall contain a list of transmitters included in the program, determined in accordance with AMS-TR-0720R2-A.

b. Online monitoring evaluation of transmitters in the program shall include the following:

1) Analysis of online monitoring data to identify those transmitters that require a calibration check and those that do not require a calibration check;

2) Performance of online monitoring using noise analysis to assess in-situ dynamic response of transmitters that can affect response time performance;

(continued)

5.5 Programs and Manuals (continued)

3) Documentation of the results of the online monitoring data analysis.

c. Performance of calibration checks during the next refueling outage of any transmitters identified as requiring a calibration check or that were not evaluated in accordance with Paragraph b.

d. Performance of calibration checks at the backstop interval determined in accordance with AMS-TR-0720R2-A.

e. Appropriate actions in the event calibration checks are not performed as specified by the program.

2.

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

DUKE ENERGY CAROLINAS, LLC

DOCKET NO. 50-369

MCGUIRE NUCLEAR STATION, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 334
Renewed License No. NPF-9

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

   A. The application for amendment by Duke Energy Carolinas, LLC (the licensee), dated October 9, 2025, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as 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 set forth in 10 CFR Chapter I;

   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 hereby amended by page 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. NPF-9 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 334, are hereby incorporated into this renewed operating license. The licensee 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 within six months of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

MICHAEL MARKLEY

Digitally signed by MICHAEL MARKLEY
Date: 2026.04.10 09:01:20 -04'00'

Michael Markley, Chief
Plant Licensing Branch II 1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility Operating Licenses and Technical Specifications

Date of Issuance: April 10, 2026

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

DUKE ENERGY CAROLINAS, LLC

DOCKET NO. 50-370

MCGUIRE NUCLEAR STATION, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 313
Renewed License No. NPF-17

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

   A. The application for amendment by the Duke Energy Carolinas, LLC (the licensee), dated October 9, 2025, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as 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 set forth in 10 CFR Chapter I;

   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 hereby amended by page 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. NPF-17 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 313, are hereby incorporated into this renewed operating license. The licensee 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 within six months of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

MICHAEL MARKLEY

Digitally signed by MICHAEL MARKLEY
Date: 2026.04.10 09:02:10 -04'00'

Michael Markley, Chief
Plant Licensing Branch II 1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility Operating Licenses and Technical Specifications

Date of Issuance: April 10, 2026

ATTACHMENT TO

DUKE ENERGY CAROLINAS, LLC

DOCKET NO. 50-369

MCGUIRE NUCLEAR STATION, UNIT 1

AMENDMENT NO. 334

RENEWED FACILITY OPERATING LICENSE NO. NPF-9

AND

DUKE ENERGY CAROLINAS, LLC

DOCKET NO. 50-370

MCGUIRE NUCLEAR STATION, UNIT 2

AMENDMENT NO. 313

RENEWED FACILITY OPERATING LICENSE NO. NPF-17

Replace the following pages of the Renewed Facility Operating Licenses with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
NPF-9, Page 3	NPF-9, Page 3
NPF-17, Page 3	NPF-17, Page 3

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

Remove	Insert
1.1-1	1.1-1
5.5-17	5.5-17

(4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components;

(5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproducts and special nuclear materials as may be produced by the operation of McGuire Nuclear Station, Units 1 and 2, and;

(6) Pursuant to the Act and 10 CFR Parts 30 and 40, to receive, possess and process for release or transfer such byproduct material as may be produced by the Duke Training and Technology Center.

C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and 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 a reactor core full steady state power level of 3469 megawatts thermal (100%).

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 334, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Updated Final Safety Analysis Report

The Updated Final Safety Analysis Report supplement submitted pursuant to 10 CFR 54.21(d), as revised on December 16, 2002, describes certain future activities to be completed before the period of extended operation. Duke shall complete these activities no later than June 12, 2021, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

The Updated Final Safety Analysis Report supplement as revised on December 16, 2002, described above, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71(e)(4), following issuance of this renewed operating license. Until that update is complete, Duke may make changes to the programs described in such supplement without prior Commission approval, provided that Duke evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

(4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components;

(5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproducts and special nuclear materials as may be produced by the operation of McGuire Nuclear Station, Units 1 and 2, and;

(6) Pursuant to the Act and 10 CFR Parts 30 and 40, to receive, possess and process for release or transfer such byproduct material as may be produced by the Duke Training and Technology Center.

C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and 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 a reactor core full steady state power level of 3469 megawatts thermal (100%).

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 313, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Updated Final Safety Analysis Report

The Updated Final Safety Analysis Report supplement submitted pursuant to 10 CFR 54.21(d), as revised on December 16, 2002, describes certain future activities to be completed before the period of extended operation. Duke shall complete these activities no later than March 3, 2023, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

The Updated Final Safety Analysis Report supplement as revised on December 16, 2002, described above, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71(e)(4), following issuance of this renewed operating license. Until that update is complete, Duke may make changes to the programs described in such supplement without prior Commission approval, provided that Duke evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

1.0 USE AND APPLICATION

1.1 Definitions

----------NOTE----------
The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases.

Term	Definition
ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.
ACTUATION LOGIC TEST	An ACTUATION LOGIC TEST shall be the application of various simulated or actual input combinations in conjunction with each possible interlock logic state and the verification of the required logic output. The ACTUATION LOGIC TEST, as a minimum, shall include a continuity check of output devices.
AXIAL FLUX DIFFERENCE (AFD)	AFD shall be the difference in normalized flux signals between the top and bottom halves of a two section excore neutron detector.
CHANNEL CALIBRATION	A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel so that it responds within the required range and accuracy to known input. The CHANNEL CALIBRATION shall encompass the entire channel, including the required sensor, alarm, interlock, display, and trip functions (excluding transmitters in the Online Monitoring Program). Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an inplace qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. Whenever a sensing element is replaced, the next required CHANNEL CALIBRATION shall include an inplace cross calibration that compares the other sensing elements with the recently installed sensing element. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping calibrations or total channel steps so that the entire channel is calibrated.

(continued)

5.5 Programs and Manuals

5.5.18 Risk-Informed Completion Time Program (continued)

e. The risk assessment approaches and methods shall be acceptable to the NRC. The plant PRA shall be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant, as specified in Regulatory Guide 1.200, Revision 2. Methods to assess the risk from extending the Completion Times must be PRA methods approved for use with this program, or other methods approved by the NRC for generic use; and any change in the PRA methods to assess risk that are outside these approval boundaries require prior NRC approval.

5.5.19 Online Monitoring Program

This program provides controls to determine the need for calibration for pressure, level, and flow transmitters using condition monitoring based on drift analysis. It also provides a means for in-situ dynamic response assessment using the noise analysis technique to detect failure modes that are not detectable by drift monitoring.

The Online Monitoring Program shall be implemented in accordance with AMS-TR-0720R2-A, “Online Monitoring Technology to Extend Calibration Intervals of Nuclear Plant Pressure Transmitters” (proprietary version). The program shall include the following elements:

a. The Online Monitoring Program shall contain a list of transmitters included in the program, determined in accordance with AMS-TR-0720R2-A.

b. Online monitoring evaluation of transmitters in the program shall include the following:

1) Analysis of online monitoring data to identify those transmitters that require a calibration check and those that do not require a calibration check;

2) Performance of online monitoring using noise analysis to assess in-situ dynamic response of transmitters that can affect response time performance;

3) Documentation of the results of the online monitoring data analysis.

c. Performance of calibration checks during the next refueling outage of any transmitters identified as requiring a calibration check or that were not evaluated in accordance with Paragraph b.

d. Performance of calibration checks at the backstop interval determined in accordance with AMS-TR-0720R2-A.

e. Appropriate actions in the event calibration checks are not performed as specified by the program.

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

DUKE ENERGY PROGRESS, LLC

DOCKET NO. 50-261

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE NO. DPR-23

Amendment No. 282
Renewed License No. DPR-23

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

   A. The application for amendment by Duke Energy Progress, LLC (the licensee), dated October 9, 2025, 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 set forth in 10 CFR Chapter I;

   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 3.B. of Renewed Facility Operating License No. DPR-23 is hereby amended to read as follows:

   B. Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 282 are hereby incorporated into the license. The licensee 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 within six months of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

MICHAEL MARKLEY

Digitally signed by MICHAEL MARKLEY
Date: 2026.04.10 09:03:35 -04'00'

Michael Markley, Chief
Plant Licensing Branch II 1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility Operating Licenses and Technical Specifications

Date of Issuance: April 10, 2026

ATTACHMENT TO

DUKE ENERGY PROGRESS, LLC

DOCKET NO. 50-261

H. B. ROBINSON STEAM ELECTRIC PLANT UNIT 2

AMENDMENT NO. 282

RENEWED FACILITY OPERATING LICENSE NO. DPR-23

Replace the following page of the Renewed Facility Operating License with the attached revised page. The revised page is identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
DPR-23, Page 3	DPR-23, Page 3

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

Remove	Insert
1.1-1	1.1-1
5.0-22b	5.0-22b
- - - - -	5.0-22c

D. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source, or special nuclear material without restriction to chemical or physical form for sample analysis or instrument and equipment calibration or associated with radioactive apparatus or components;

E. Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by operation of the facility.

3. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Section 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; and 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:

A. Maximum Power Level

The licensee is authorized to operate the facility at a steady state reactor core power level not in excess of 2339 megawatts thermal.

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 282 are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

(1) For Surveillance Requirements (SRs) that are new in Amendment 176 to Final Operating License DPR-23, the first performance is due at the end of the first surveillance interval that begins at implementation of Amendment 176. For SRs that existed prior to Amendment 176, including SRs with modified acceptance criteria and SRs whose frequency of performance is being extended, the first performance is due at the end of the first surveillance interval that begins on the date the Surveillance was last performed prior to implementation of Amendment 176.

1.0 USE AND APPLICATION

1.1 Definitions

----------NOTE----------
The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases.

Term	Definition
ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.
ACTUATION LOGIC TEST	An ACTUATION LOGIC TEST shall be the application of various simulated or actual input combinations in conjunction with each possible interlock logic state and the verification of the required logic output. The ACTUATION LOGIC TEST, as a minimum, shall include a continuity check of output devices.
AXIAL FLUX DIFFERENCE (AFD)	AFD shall be the difference in normalized flux signals between the top and bottom halves of a two section excore neutron detector.
CHANNEL CALIBRATION	A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel so that it responds within the required range and accuracy to known input. The CHANNEL CALIBRATION shall encompass the entire channel, including the required sensor, alarm, interlock, display, and trip functions (excluding transmitters in the Online Monitoring Program). Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an inplace qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. Whenever a sensing element is replaced, the next required CHANNEL CALIBRATION shall include an inplace cross calibration that compares the other sensing elements with the recently installed sensing element. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping calibrations or total channel steps so that the entire channel is calibrated.

(continued)

5.5.18 Surveillance Frequency Control Program (continued)

a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those Surveillance Requirements for which the Frequency is controlled by the program.

b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, “Risk-Informed Method for Control of Surveillance Frequencies,” Revision 1.

c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

5.5.19 Online Monitoring Program

This program provides controls to determine the need for calibration for pressure, level, and flow transmitters using condition monitoring based on drift analysis. It also provides a means for in-situ dynamic response assessment using the noise analysis technique to detect failure modes that are not detectable by drift monitoring.

The Online Monitoring Program shall be implemented in accordance with AMS-TR-0720R2-A, “Online Monitoring Technology to Extend Calibration Intervals of Nuclear Plant Pressure Transmitters” (proprietary version). The program shall include the following elements:

a. The Online Monitoring Program shall contain a list of transmitters included in the program, determined in accordance with AMS-TR-0720R2-A.

b. Online monitoring evaluation of transmitters in the program shall include the following:

1) Analysis of online monitoring data to identify those transmitters that require a calibration check and those that do not require a calibration check;

2) Performance of online monitoring using noise analysis to assess in-situ dynamic response of transmitters that can affect response time performance;

3) Documentation of the results of the online monitoring data analysis.

c. Performance of calibration checks during the next refueling outage of any transmitters identified as requiring a calibration check or that were not evaluated in accordance with Paragraph b.

(continued)

5.5.19 Online Monitoring Program (continued)

d. Performance of calibration checks at the backstop interval determined in accordance with AMS-TR-0720R2-A.

e. Appropriate actions in the event calibration checks are not performed as specified by the program.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO

THE USE OF ONLINE MONITORING METHODOLOGY

DUKE ENERGY CAROLINAS, LLC AND DUKE ENERGY PROGRESS, LLC

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2

CATAWBA NUCLEAR STATION, UNIT NOS. 1 AND 2

MCGUIRE NUCLEAR STATION, UNIT NOS. 1 AND 2

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

DOCKET NOS. 50-325, 50-324, 50-413, 50-414, 50-369, 50-370, AND 50-261

1.0 INTRODUCTION

By application dated October 9, 2025 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML25282A076), Duke Energy Carolinas, LLC, and Duke Energy Progress, LLC (Duke Energy or the licensee), requested changes to the Brunswick Steam Electric Plant, Unit Nos. 1 and 2 (BSEP); Catawba Nuclear Station, Unit Nos. 1 and 2 (CNS), McGuire Nuclear Station, Unit Nos. 1 and 2 (MNS), and for the H. B. Robinson Steam Electric Plant, Unit No. 2 (HBRSEP) Technical Specifications (TSs).

The proposed amendment would revise BSEP, CNS, MNS, and HBRSEP TS 1.1, “Definitions,” and adds new BSEP TS 5.5.16, CNS TS 5.5.18, MNS TS 5.5.19, and HBRSEP TS 5.5.19 “Online Monitoring Program.” Duke Energy proposes to use online monitoring (OLM) methodology as the technical basis to switch from time-based surveillance frequency for calibrations to a condition-based calibration frequency based on OLM results. The proposed amendments are based on the U.S. Nuclear Regulatory Commission (NRC)-approved topical report (TR) AMS-TR-0720R2-A, “Online Monitoring Technology to Extend Calibration Intervals of Nuclear Plant Pressure Transmitters” (ML21235A493).

The NRC staff issued a safety evaluation (SE) approving the “-A” version of the AMS-TR-0720R2-A on August 11, 2021, “Final Safety Evaluation for AMS [Analysis and Measurement Services] Online Monitoring Topical Report” (ADAMS Package ML21179A060).

2.0 REGULATORY EVALUATION

2.1 Regulations and Guidance

The NRC staff considered the following regulatory requirements and guidance in reviewing the concepts being implemented in the requested OLM programs:

- Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36(c)(1)(ii)(A) states, in part, that limiting safety system settings are settings for automatic protective devices related to those variables having significant safety functions. This section requires that, where a limiting safety system setting is specified for a variable on which a safety limit has been placed, the setting must be chosen so that automatic protective action will correct the abnormal situation before a safety limit is exceeded. It also requires that the licensee take appropriate action and notify the NRC if it is determined that an automatic safety system does not "function as required." The licensee is then required to review the matter and record the results of the review.

- The regulation in 10 CFR 50.36(c)(3) states, "Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met."

- The regulation in 10 CFR 50.36(c)(5) states, in part, that "Administrative controls are the provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner."

- The regulation in 10 CFR 50.55a(h)(2) states:

    - *Protection systems*. For nuclear power plants with construction permits issued after January 1, 1971, but before May 13, 1999, protection systems must meet the requirements in IEEE [Institute of Electrical and Electronics Engineers] Std 279–1968, "Proposed IEEE Criteria for Nuclear Power Plant Protection Systems," or the requirements in IEEE Std 279–1971, "Criteria for Protection Systems for Nuclear Power Generating Stations," or the requirements in IEEE Std 603–1991, "Criteria for Safety Systems for Nuclear Power Generating Stations," and the correction sheet dated January 30, 1995. For nuclear power plants with construction permits issued before January 1, 1971, protection systems must be consistent with their licensing basis or may meet the requirements of IEEE Std. 603–1991 and the correction sheet dated January 30, 1995.

Appendix A, "General Design Criteria [GDC] for Nuclear Power Plants," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," establishes the principal design criteria for water-cooled nuclear power plants similar in design and location to plants for which construction permits (CPs) have been issued by the Commission. The BSEP CP was issued before 1971, and CNS and MNS CPs were issued after 1971; their Updated Final Safety Analysis Report (UFSAR) documents conform to the GDC published as Appendix A to 10 CFR Part 50 in July 1971.

The NRC determined that the GDC listed below are applicable to this review for CNS and MNS. BSEP plant-specific design criterion in UFSAR 3.1.2.2.4, "Criterion 13 – Instrumentation and

Control, and UFSAR 3.1.2.3.1, “Protection System Functions,” conform closely to the GDC with some adaptions.

- *Criterion 13 - Instrumentation and control,* states that, “Instrumentation shall be provided to monitor variables and systems over their anticipated ranges for normal operation, for anticipated operational occurrences, and for accident conditions as appropriate to assure adequate safety, including those variables and systems that can affect the fission process, the integrity of the reactor core, the reactor coolant pressure boundary, and the containment and its associated systems. Appropriate controls shall be provided to maintain these variables and systems within prescribed operating ranges.”

- *Criterion 20 - Protection system functions,* states that, “The protection system shall be designed (1) to initiate automatically the operation of appropriate systems including the reactivity control systems, to assure that specified acceptable fuel design limits are not exceeded as a result of anticipated operational occurrences and (2) to sense accident conditions and to initiate the operation of systems and components important to safety.

- *Criterion 21 – Protection system reliability and testability*. The protection system shall be designed for high functional reliability and inservice testability commensurate with the safety functions to be performed. Redundancy and independence designed into the protection system shall be sufficient to assure that (1) no single failure results in loss of the protection function and (2) removal from service of any component or channel does not result in loss of the required minimum redundancy unless the acceptable reliability of operation of the protection system can be otherwise demonstrated. The protection system shall be designed to permit periodic testing of its functioning when the reactor is in operation, including a capability to test channels independently to determine failures and losses of redundancy that may have occurred.

The HBRSEP CP was issued prior to 1971. The licensee evaluated HBRSEP with respect to the proposed 1967 GDC, as documented in their UFSAR (as amended). HBRSEP plant-specific design criteria in the UFSAR map to the pre-GDC as follow:

- UFSAR 3.1.2.12, “Instrumentation and Control Systems, “Instrumentation and controls shall be provided as required to monitor and maintain within prescribed operating ranges for the essential reactor facility operating variables. (GDC 12)

- UFSAR 3.1.2.14, “Core Protection Systems, "Core protection systems, together with associated equipment, shall be designed to prevent or to suppress conditions that could result in exceeding acceptable fuel damage limits. (GDC 14)

- UFSAR 3.1.2.15, “ESF [Engineered Safety Features] Systems,” Protection systems shall be provided for sensing accident situations and initiating the operation of necessary ESF. (GDC 15)

- UFSAR 3.1.2.19, “Protection System Reliability,” Protection system shall be designed for high functional reliability and in-service testability necessary to avoid undue risk to the health and safety of the public. (GDC 19)

- UFSAR 3.1.2.20, “Protection Systems Redundancy and Independence,” Redundancy and independence designed into protection systems shall be sufficient to assure that no single

failure on removal from service of any component or channel of such a system will result in loss of the protection function. The redundancy provided shall include, as a minimum, two channels of protection for each protection function to be served. (GDC 20)

The following are the specific NRC guidance documents applicable to the NRC staff's evaluation of the requested OLM programs:

- NUREG-0800, Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light Water Reactor] Edition, Branch Technical Position (BTP) 7-12, "Guidance on Establishing and Maintaining Instrument Setpoints," Revision 6, (ML16019A200).

- Regulatory Guide (RG) 1.105, Revision 4, "Setpoints for Safety-Related Instrumentation," (ML20330A329), February 2021. This RG describes an approach that is acceptable to the NRC staff to meet regulatory requirements to ensure that: (a) setpoints for safety-related instrumentation are established to protect nuclear power plant safety and analytical limits, and (b) the maintenance of instrument channels implementing these setpoints ensures they are functioning as required, consistent with the plant TSs. This RG endorses American National Standards Institute (ANSI)/International Society of Automation (ISA) Standard 67.04.01-2018, "Setpoints for Nuclear Safety-Related Instrumentation." Among other things, the ANSI/ISA 67.04.01 standard provides criteria for assessing the performance of safety-related instrument channels to ensure they remain capable of achieving their required safety functions in a reliable manner. This performance monitoring process requires the establishment of acceptable "As-Found" tolerance limits used to check whether an instrument channel is functioning as required, and the establishment of acceptable "As-Left" tolerance limits used to establish the maximum allowed deviation from the desired setpoint of the instrument channel and still be considered as "within calibration."

The following guidance documents provide information associated with the periodic calibration of safety-related instrument channels that was considered by the NRC staff during its evaluation of the requested OLM programs:

- Regulatory Issue Summary (RIS) 2006-017, "NRC Staff Position on the Requirements of 10 CFR 50.36, 'Technical Specifications,' regarding Limiting Safety System Settings during Periodic Testing and Calibration of Instrument Channels," dated August 24, 2006 (ML051810077), provides regulatory clarification on NRC staff positions in terms of the appropriate determination of TS-related instrument channel operability. The RIS clarifies NRC staff positions about the appropriate establishment of as-found and as-left acceptance tolerances.

- Generic Letter 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991 (ML031140501), provides guidance on acceptable methods for licensees to justify an increase in calibration surveillance intervals using as-found and as-left calibration data from past calibration surveillances.

2.2 Description of Proposed Changes

The licensee proposed the following change to TS 1.1, “Definitions” for BSEP.

The current CHANNEL CALIBRATION definition states:

> A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds within the necessary range and accuracy to known values of the parameter that the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel, including the required sensor, alarm, display, and trip functions, and shall include the CHANNEL FUNCTIONAL TEST. Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an inplace qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping, or total channel steps so that the entire channel is calibrated.

The revised CHANNEL CALIBRATION definition would state (changes indicated in **bold)**:

> A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds within the necessary range and accuracy to known values of the parameter that the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel, including the required sensor **(excluding transmitters in the Online Monitoring Program),** alarm, display, and trip functions, and shall include the CHANNEL FUNCTIONAL TEST. Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an inplace qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping, or total channel steps so that the entire channel is calibrated.

The licensee proposed the following change to TS 1.1, “Definitions” for CNS.

The current CHANNEL CALIBRATION definition states:

> A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel so that it responds within the required range and accuracy to known input. The CHANNEL CALIBRATION shall encompass the entire channel, including the required sensor, alarm, interlock, display, and trip functions. Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an inplace qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. Whenever a sensing element is replaced, the next required CHANNEL CALIBRATION shall include an inplace cross calibration that compares the other sensing elements with the recently installed sensing element. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping calibrations or total channel steps so that the entire channel is calibrated.

The revised CHANNEL CALIBRATION definition would state (changes indicated in **bold**):

> A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel so that it responds within the required range and accuracy to known input. The CHANNEL CALIBRATION shall encompass the entire channel, including the required sensor, alarm, interlock, display, and trip functions **(excluding transmitters in the Online Monitoring Program)**. Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an inplace qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. Whenever a sensing element is replaced, the next required CHANNEL CALIBRATION shall include an inplace cross calibration that compares the other sensing elements with the recently installed sensing element. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping calibrations or total channel steps so that the entire channel is calibrated.

The licensee proposed the following change to TS 1.1, “Definitions” for MNS.

The current CHANNEL CALIBRATION definition states:

> A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel so that it responds within the required range and accuracy to known input. The CHANNEL CALIBRATION shall encompass the entire channel, including the required sensor, alarm, interlock, display, and trip functions. Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an inplace qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. Whenever a sensing element is replaced, the next required CHANNEL CALIBRATION shall include an inplace cross calibration that compares the other sensing elements with the recently installed sensing element. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping calibrations or total channel steps so that the entire channel is calibrated.

The revised CHANNEL CALIBRATION definition would state (changes indicated in **bold**):

> A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel so that it responds within the required range and accuracy to known input. The CHANNEL CALIBRATION shall encompass the entire channel, including the required sensor, alarm, interlock, display, and trip functions **(excluding transmitters in the Online Monitoring Program)**. Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an inplace qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. Whenever a sensing element is replaced, the next required CHANNEL CALIBRATION shall include an inplace cross calibration that compares the other sensing elements with the recently installed sensing element. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping calibrations or total channel steps so that the entire channel is calibrated.

The licensee proposed the following change to TS 1.1, “Definitions” for HBRSEP.

The current CHANNEL CALIBRATION definition states:

> A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel so that it responds within the required range and accuracy to known input. The CHANNEL CALIBRATION shall encompass the entire channel, including the required sensor, alarm, interlock, display, and trip functions. Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an inplace qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. Whenever a sensing element is replaced, the next required CHANNEL CALIBRATION shall include an inplace cross calibration that compares the other sensing elements with the recently installed sensing element. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping calibrations or total channel steps so that the entire channel is calibrated.

The revised CHANNEL CALIBRATION definition would state (changes indicated in **bold**):

> A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel so that it responds within the required range and accuracy to known input. The CHANNEL CALIBRATION shall encompass the entire channel, including the required sensor, alarm, interlock, display, and trip functions **(excluding transmitters in the Online Monitoring Program)**. Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an inplace qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. Whenever a sensing element is replaced, the next required CHANNEL CALIBRATION shall include an inplace cross calibration that compares the other sensing elements with the recently installed sensing element. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping calibrations or total channel steps so that the entire channel is calibrated.

In addition, Duke Energy proposes adding a new administrative control TS for each plant as follows:

TS 5.5.16, “Online Monitoring Program” for BSEP,
TS 5.5.18, “Online Monitoring Program” for CNS.
TS 5.5.19, “Online Monitoring Program” for MNS, and
TS 5.5.19, “Online Monitoring Program” for HBRSEP, as shown below.

> Online Monitoring Program
>
> This program provides controls to determine the need for calibration for pressure, level, and flow transmitters using condition monitoring based on drift analysis. It also provides a means for in-situ dynamic response assessment using the noise analysis technique to detect failure modes that are not detectable by drift monitoring.
>
> The Online Monitoring Program shall be implemented in accordance with AMS-TR-0720R2-A, “Online Monitoring Technology to Extend Calibration Intervals of Nuclear Plant Pressure Transmitters” (proprietary version). The program shall include the following elements:

a. The Online Monitoring Program shall contain a list of transmitters included in the program, determined in accordance with AMS-TR-0720R2-A.
b. Online monitoring evaluation of transmitters in the program shall include the following:

    1) Analysis of online monitoring data to identify those transmitters that require a calibration check and those that do not require a calibration check;
    2) Performance of online monitoring using noise analysis to assess in-situ dynamic response of transmitters that can affect response time performance;
    3) Documentation of the results of the online monitoring data analysis.

c. Performance of calibration checks during the next refueling outage of any transmitters identified as requiring a calibration check or that were not evaluated in accordance with Paragraph b.
d. Performance of calibration checks at the backstop interval determined in accordance with AMS-TR-0720R2-A.
e. Appropriate actions in the event calibration checks are not performed as specified by the program.

3.0 TECHNICAL EVALUATION

3.1 Description of the OLM Program

The proposed Duke Energy OLM programs for BSEP, Units 1 and 2, CNS, Units 1 and 2, MNS, Units 1 and 2, and HBRSEP, Unit 2, are based on the NRC approved topical report, AMS-TR-0720R2-A, “Online Monitoring Technology to Extend Calibration Intervals of Nuclear Plant Pressure Transmitters.” This methodology provides a process for performing online monitoring of the output signals of pressure, level, and flow transmitters. The AMS methodology is designed for use in nuclear power plants as an analytical tool to measure transmitter calibration performance during plant operation between scheduled refueling outages. The NRC staff previously found this methodology to provide reasonable assurance that technical specification instrument calibration requirements for transmitters are maintained, provided application-specific action items (ASAIs) are implemented, as specified in the approved topical report.

3.2 OLM Program Implementation

In Section 3.2 of its submittal, the licensee stated that the AMS Bridge and the AMS Calibration Reduction System (CRS) software programs were developed under AMS’s 10 CFR Part 50, Appendix B, compliant Quality Assurance (QA) program. The NRC staff conducted an inspection of AMS to review AMS’s implementation of its QA program with respect to the design, testing, and error controls for the AMS Bridge and the AMS CRS software programs. The NRC staff documented its findings in an inspection report dated March 14, 2025, “Nuclear Regulatory Commission Inspection Report of Analysis and Measurement Services No. 99902075/2025-201” (ML25071A181).

3.3 Description and Evaluation of TS Changes

The licensee’s submittal requested approval to implement its OLM program by revising the appropriate TS 1.1, “Use and Application, Definitions,” and adding new sections in TS 5.5.16

(BSEP), 5.5.18 (CNS), 5.5.19 (MNS), and 5.5.19 (HBRSEP), “Online Monitoring Program.” Duke Energy proposes to use the OLM methodology presented in AMS-TR-0720R2-A as the technical basis to change from time-based surveillance frequency for channel calibrations to a condition-based calibration frequency based on OLM analysis results. Mark-ups of the TS pages were provided in Attachments 1, 3, 5, 7, and 9 to the LAR dated October 9, 2025.

3.4 OLM Noise Analysis Implementation

In its submittal, the licensee detailed the steps to implement the noise analysis technique to assess dynamic failure modes of pressure transmitters. The information provided in Sections 3.3.1 through 3.3.6 of its submittal is mapped to the steps found in Section 11.3.3, “Steps for Implementation of Noise Analysis Technique,” of AMS-TR-0720R2-A. The NRC staff finds that the licensee’s mapping and information related to the noise analysis implementation is consistent with the AMS OLM TR, AMS-TR-0720R2-A.

3.5 TS 1.1, “Use and Application, Definitions”

For BSEP, Units 1 and 2, CNS, Units 1 and 2, MNS, Units 1 and 2, and HBRSEP, Unit 2, the TS definition for the term CHANNEL CALIBRATION is being revised to account for the approved OLM methodologies. The specific change allows transmitters that are included in the licensee’s OLM program to be excluded from the scope of instrumentation to be periodically calibrated within the frequency in the Surveillance Frequency Control Program.

The NRC staff reviewed this proposed change in the context of the OLM program. This change is acceptable because the OLM processes include an acceptable method for identifying performance issues as they occur and initiating corrective actions when pre-established OLM limits are exceeded. The corrective actions also include performing instrument calibrations as necessary to restore instrument performance to within acceptable parameters. Data collected during OLM activities is also used to adjust OLM limits such that poorly performing instruments will be calibrated at greater frequencies to address any potential impact on long-term plant performance.

For CNS and MNS, the TS definition for the terms ENGINEERED SAFETY FEATURE ACTUATION SYSTEM (ESFAS) RESPONSE TIME and REACTOR TRIP SYSTEM (RTS) RESPONSE TIME are not being revised, but the TS Bases are updated to clarify that the exclusion from periodic response time testing for instruments in the OLM program is based on the approved noise analysis methodology described in AMS-TR-0720R2-A. The existing exclusion from response time testing was previously based on periodic channel calibration; this is now being credited to the OLM program for instruments included in the OLM scope.

The NRC staff does not approve changes to the TS Bases but notes that revised definition and corresponding Bases changes to be acceptable because the OLM program will continue to monitor instrument performance and will be capable of detecting instrument degradation or failures that could affect response time performance. The previous definition allowed exclusion from response time testing because instrument failures affecting response time would also affect calibration performance and would be detectable during periodic calibration tests and channel check activities. Since the OLM program retains the capability of detecting and correcting instrument degraded performance or fault conditions, the NRC staff considers this method to be an acceptable and approved methodology to support exclusion of these instruments from response time testing.

For BSEP and HBRSEP, similar changes are made in the TS Bases to clarify that the exclusion from response time testing is now supported by the noise analysis technique within the OLM program.

3.6 New TS 5.5.16 (BSEP), 5.5.18 (CNS), 5.5.19 (MNS), and 5.5.19 (HBRSEP), "Online Monitoring Program"

This new TS section provides a description of the AMS-based OLM program. The new TS stipulates that the OLM program must be implemented in accordance with the NRC approved topical report, AMS-TR-0720R2-A. Each new TS section lists the key elements of the OLM program, including the identification of transmitters included in the program, analysis of OLM data to determine calibration needs, use of noise analysis for dynamic failure mode assessment, documentation of results, performance of calibration checks at specified intervals, and actions if calibration checks are missed.

The NRC staff reviewed the TS description of the OLM program and found that it is consistent with the program descriptions provided in the approved topical report AMS-TR-0720R2-A. To verify that the Duke Energy plants programs would be implemented in accordance with the NRC approved TR, the NRC staff conducted an audit per audit plan dated December 9th, 2025 (ML25325A351) and examined several Duke Energy specific reports that documented program implementation activities. These reports are described in the NRC staff's audit summary dated March 3, 2026 (ML26027A148). The NRC staff audit confirmed that key elements including calculations of OLM limits, amenable transmitters to be included in the OLM program, backstop calculations, noise analysis implementation, maximum sampling rate calculations, OLM coverage of transmitter setpoints and range, drift monitoring, plant procedures for data retrieval, and analysis and capture of data for the OLM program would be implemented as described in AMS-TR-0720R2-A.

The NRC staff also reviewed Duke Energy's responses to each of the ASAIs provided in Section 4.0 of the NRC staff's SE for the AMS OLM TR. The licensee's responses to these ASAIs are provided in Section 3.4 of the LAR dated October 9, 2025. The staff's evaluation of the licensee's responses to the AMS TR-0720R2-A ASAIs is provided below. The NRC determined that all plant-specific actions have been performed at an acceptable level and the Duke Energy OLM programs would be implemented in conformance with the approved TR AMS-TR-0720R2-A.

3.7 AMS TR-0720R2-A – ASAIs

The NRC identified five ASAIs in the safety evaluation of the AMS OLM program TR. The licensee provided responses to each of these ASAIs in Section 3.4 of the LAR dated October 9, 2025. The NRC staff evaluation of these ASAIs is provided below:

3.7.1 ASAI 1 - Evaluation and Proposed Mark-up of Existing Plant Technical Specifications

> "When preparing a license amendment request to adopt OLM methods for establishing calibration frequency, licensees should consider mark-ups that provide clear requirements for accomplishing plant operations, engineering data analysis, and instrument channel maintenance. Such TS changes need to include appropriate mark-ups of the TS tables describing limiting conditions for operation and surveillance requirements, the technical basis for the changes, and the administrative programs section."

This evaluation is provided in Section 3.2 through 3.6 of this SE. The licensee provided mark-ups of the applicable TSs that provide clear requirements for accomplishing plant operations, engineering data analysis, and instrument channel maintenance for transmitters that are included in the OLM program. Mark-ups of the TS Bases were also provided for information which, in part, describe the technical basis for the online monitoring program. Therefore, the NRC staff finds the criteria of ASAI 1 are met.

3.7.2 ASAI 2 - Identification of Calibration Error Source

> "When determining whether an instrument can be included in the plant OLM program, the licensee shall evaluate calibration error source in order to account for the uncertainty due to multiple instruments used to support the transfer of transmitter signal data to the data collection system. Calibration errors identified through OLM should be attributed to the transmitter until testing can be performed on other support devices to correctly determine the source of calibration error and reallocate errors to these other loop components."

The NRC staff performed an audit of Duke Energy's OLM program implementation reports to verify that calibration error sources were being factored into account for the uncertainty due to multiple instruments used to support the transfer of transmitter signal data to the data collection system. The NRC staff confirmed that Duke Energy's OLM program attributes calibration errors to the transmitter unless testing is subsequently performed to determine and reallocate calibration error to other instrument loop components. Therefore, the NRC staff finds the criteria of ASAI 2 are met.

3.7.3 ASAI 3 - Response Time Test Elimination Basis

> "If the plant has eliminated requirements for performing periodic response time (RT) testing of transmitters to be included in the OLM program, then the licensee shall perform an assessment of the basis for RT test elimination to determine if this basis will remain valid upon implementation of the OLM program and to determine if the RT test elimination will need to be changed to credit the OLM program rather than the periodic calibration test program."

The transmitters that are being incorporated into the OLM programs were exempt from response time testing based on periodic calibration. The licensee performed an assessment of the basis for response time testing exemptions and determined that the OLM program will continue to support exemption from response time testing, because the OLM methods will detect transmitter failures that would affect response time performance. The basis for this exclusion is extended to include transmitters in the OLM program by the TS changes incorporated in TS 1.1 and corresponding TS Bases, as evaluated in Section 3.3 of this SE. Therefore, the NRC staff finds the criteria of ASAI 3 are met.

3.7.4 ASAI 4 – Use of Calibration Surveillance Interval Backstop

> "In its application for a license or license amendment to incorporate OLM methods for establishing calibration surveillance intervals, applicants or licensees should describe how they intend to apply backstop intervals as a means for mitigating the potential that a process group could be experiencing undetected common mode drift characteristics."

The NRC staff performed an audit which included the backstop interval calculations performed for the transmitters being incorporated into the proposed OLM programs and confirmed that

these calculations were performed in a manner consistent with the processes outlined in the approved AMS OLM topical report for determining maximum calibration intervals. Therefore, the NRC staff finds criteria of ASAI 4 are met.

3.7.5 ASAI 5 – Use of Criteria other than in AMS OLM TR for Establishing Transmitter Drift Flagging Limit

> "In its application for a license or license amendment to incorporate OLM methods for establishing calibration surveillance intervals, applicants or licensees should describe whether they intend to adopt the criteria within the AMS OLM TR for flagging transmitter drift or whether they plan to use a different methodology for determining this limit."

The NRC staff determined that the Duke Energy proposed OLM programs are consistent with the AMS OLM topical report AMS-TR-0720R2-A, and therefore, a different methodology is not being employed. Therefore, the NRC staff finds criteria of ASAI 5 are met.

3.8 Technical Summary

The NRC staff finds that the licensee's proposed implementation of the Duke Energy OLM Programs for BSEP, CNS, MNS, and HBRSEP is consistent with the approved TR, AMS-TR-0720R2-A.

The regulation in 10 CFR 50.36(a)(1) states, in part, "[a] summary statement of the bases or reasons for such specifications other than those covering administrative controls shall also be included in the application but shall not become part of the technical specifications." Accordingly, along with the proposed TS changes, the licensee submitted TS Bases changes that correspond to the proposed TS changes, to provide the reasons for those TSs. Although the TS Bases changes were provided for information, the NRC confirmed them to be consistent with the approved AMS OLM topical report methods.

The NRC staff determined that implementation of the OLM program for BSEP Units 1 and 2, CNS Units 1 and 2, MNS Units 1 and 2, and HBRSEP Unit 2 will continue to support establishment of limiting safety system settings associated with the transmitters that are included in the program. These settings will continue to ensure that associated automatic protective actions will correct abnormal situations before safety limits are exceeded. The surveillance requirements relating to test, calibration, and inspection of these transmitters will also continue to ensure that the adequate quality of systems and components is maintained. Therefore, the NRC staff finds that the requirements of 10 CFR 50.36(c)(1)(ii)(A), 10 CFR 50.36(c)(3), 10 CFR 50.36(c)(5) and 10 CFR 50.55a(h)(2) would continue to be met. Additionally, the NRC staff finds that the licensee's implementation of the OLM Program in accordance with approved TR, AMS-TR-0720R2-A will continue to meet the requirements of Appendix A to 10 CFR Part 50, GDC 13, 20, and 21 for BSEP, CNS, and MNS and HBRSEP plant-specific design criteria 12, 14, 15, 19, and 20. The licensee will still be required to notify the NRC if an associated automatic safety system does not function as required.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, States of North Carolina and South Carolina officials were notified of the proposed issuance of the amendments on February 24, 2026. On February 24, 2026, the State of North Carolina confirmed they had no comments. On February 25, 2026, the State of South Carolina confirmed they had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes requirements with respect to installation or use of facility components located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, published in the *Federal Register* on January 20, 2026 (91 FR 2375), and there has been no public comment on such finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2; CATAWBA NUCLEAR STATION, UNITS 1 AND 2; MCGUIRE NUCLEAR STATION, UNITS 1 AND 2; AND H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT 2-ISSUANCE OF AMENDMENTS TO REVISE TECHNICAL SPECIFICATIONS TO USE ONLINE MONITORING METHODOLOGY (EPID L-2025-LLA-0165) DATED APRIL 10, 2026

DISTRIBUTION:
PUBLIC
RidsNrrDorlLpl2-1 Resource
RidsNrrDorlLpl2-2 Resource
RidsNrrLAABaxter Resource
RidsNrrLAKZeleznock Resource
RidsNrrPMBrunswick Resource
RidsNrrPMCatawba Resource
RidsNrrPMMcGuire Resource
RidsNrrPMRobinson Resource
RidsRgn2MailCenter Resource
RidsNrrDssStsb Resource
RidsNrrDexEicb Resource
RidsACRS_MailCTR Resource
FO'Brien, NRR
GBlasRodriguez, NRR
TSweat, NRR

ADAMS Accession Nos.:
Package: ML26099A090
ML26027A128 (Amendment)
e-Concurrence case: 20260127-50018