



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

September 6, 2017

Mr. William R. Gideon, Vice President
Brunswick Steam Electric Plant
Duke Energy Progress, LLC
8470 River Rd., SE (M/C BNP001)
Southport, NC 28461

SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2 – ISSUANCE
OF AMENDMENTS TO ADOPT TSTF-529, REV. 4, “CLARIFY USE AND
APPLICATION RULES” (CAC NOS. MF8819 AND MF8820)

Dear Mr. Gideon:

The U.S. Nuclear Regulatory Commission (NRC or the Commission) has issued the enclosed Amendment Nos. 281 and 309 to Renewed Facility Operating License Nos. DPR-71 and DPR-62 for Brunswick Steam Electric Plant, Units 1 and 2, respectively. These amendments are in response to your application dated October 27, 2016. The amendments modify the Technical Specifications (TSs) Sections 1.3, “Completion Times,” and 3.0, “Limiting Condition for Operation (LCO) Applicability” and “Surveillance Requirement (SRs) Applicability.” The changes clarify and expand the use and application of the plant’s TS usage rules consistent with the NRC-approved Technical Specifications Task Force (TSTF) Traveler TSTF-529, Revision 4, “Clarify Use and Application Rules” dated February 29, 2016.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission’s biweekly *Federal Register* Notice.

Sincerely,

A handwritten signature in black ink, appearing to read "Andrew Hon", followed by a horizontal line.

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

Docket Nos. 50-325 and 50-324

Enclosures:

1. Amendment No. 281 to DPR-71
2. Amendment No. 309 to DPR-62
3. Safety Evaluation

cc w/enclosures: 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. 281
Renewed License No. DPR-71

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by Duke Energy Progress, LLC, dated October 27, 2016, 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.

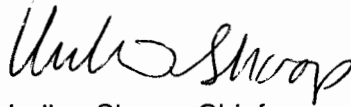
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-71 is hereby amended to read as follows:

- (2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 281, 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 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Undine Shoop, Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Operating License
and Technical Specifications

Date of Issuance: September 6, 2017

ATTACHMENT TO LICENSE AMENDMENT NO. 281
BRUNSWICK STEAM ELECTRIC PLANT, UNIT 1
RENEWED FACILITY OPERATING LICENSE NO. DPR-71
DOCKET NO. 50-325

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

Replace the following 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 Pages

1.3-1
1.3-2
1.3-3
1.3-4
1.3-5
3.0-2
3.0-5

Insert Pages

1.3-1
1.3-2
1.3-3
1.3-4
1.3-5
3.0-2
3.0-5

(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. 281, 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

1.3 Completion Times

PURPOSE	The purpose of this section is to establish the Completion Time convention and to provide guidance for its use.
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BACKGROUND	Limiting Conditions for Operation (LCOs) specify minimum requirements for ensuring safe operation of the unit. The ACTIONS associated with an LCO state Conditions that typically describe the ways in which the requirements of the LCO can fail to be met. Specified with each stated Condition are Required Action(s) and Completion Times(s).
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DESCRIPTION	<p>The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the discovery of a situation (e.g., inoperable equipment or variable not within limits) that requires entering an ACTIONS Condition unless otherwise specified, providing the unit is in a MODE or specified condition stated in the Applicability of the LCO.</p> <p>Unless otherwise specified, the Completion Time begins when a senior licensed operator on the operating shift crew with responsibility for plant operations makes the determination that an LCO is not met and an ACTIONS Condition is entered. The "otherwise specified" exceptions are varied, such as a Required Action Note or Surveillance Requirement Note that provides an alternative time to perform specific tasks such as testing, without starting the Completion Time. While utilizing the Note, should a Condition be applicable for any reason not addressed by the Note, the Completion Time begins. Should the time allowance in the Note be exceeded, the Completion Time begins at that point. The exceptions may also be incorporated into the Completion Time. For example, LCO 3.8.1, "AC Sources – Operating," Required Action B.1, requires declaring required feature(s) supported by an inoperable diesel generator inoperable when the redundant required feature(s) are inoperable. The Completion Time states, "Immediately from discovery of Condition B concurrent with inoperability of redundant required feature(s)." In this case the Completion Time does not begin until the conditions in the Completion Time are satisfied.</p>
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(continued)

1.3 Completion Times

DESCRIPTION
(continued)

Required Actions must be completed prior to the expiration of the specified Completion Time. An ACTIONS Condition remains in effect and the Required Actions apply until the Condition no longer exists or the unit is not within the LCO Applicability.

If situations are discovered that require entry into more than one Condition at a time within a single LCO (multiple Conditions), the Required Actions for each Condition must be performed within the associated Completion Time. When in multiple Conditions, separate Completion Times are tracked for each Condition starting from the discovery of the situation that required entry into the Condition, unless otherwise specified.

Once a Condition has been entered, subsequent divisions, subsystems, components, or variables expressed in the Condition, discovered to be inoperable or not within limits, will not result in separate entry into the Condition unless specifically stated. The Required Actions of the Condition continue to apply to each additional failure, with Completion Times based on initial entry into the Condition, unless otherwise specified.

However, when a subsequent division, subsystem, component, or variable expressed in the Condition is discovered to be inoperable or not within limits, the Completion Time(s) may be extended. To apply this Completion Time extension, two criteria must first be met. The subsequent inoperability:

- a. Must exist concurrent with the first inoperability; and
- b. Must remain inoperable or not within limits after the first inoperability is resolved.

The total Completion Time allowed for completing a Required Action to address the subsequent inoperability shall be limited to the more restrictive of either:

- a. The stated Completion Time, as measured from the initial entry into the Condition, plus an additional 24 hours; or
- b. The stated Completion Time as measured from discovery of the subsequent inoperability.

(continued)

1.3 Completion Times

DESCRIPTION
(continued)

The above Completion Time extension does not apply to those Specifications that have exceptions that allow completely separate re-entry into the Condition (for each division, subsystem, component or variable expressed in the Condition) and separate tracking of Completion Times based on this re-entry. These exceptions are stated in individual Specifications.

The above Completion Time extension does not apply to a Completion Time with a modified "time zero." This modified "time zero" may be expressed as a repetitive time (i.e., "once per 8 hours," where the Completion Time is referenced from a previous completion of the Required Action versus the time of Condition entry) or as a time modified by the phrase "from discovery . . ." Example 1.3-3 illustrates one use of this type of Completion Time. The 10 day Completion Time specified for Condition A and B in Example 1.3-3 may not be extended.

EXAMPLES

The following examples illustrate the use of Completion Times with different types of Conditions and changing Conditions.

EXAMPLE 1.3-1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

Condition B has two Required Actions. Each Required Action has its own separate Completion Time. Each Completion Time is referenced to the time that Condition B is entered.

(continued)

1.3 Completion Times

EXAMPLES

EXAMPLE 1.3-1 (continued)

The Required Actions of Condition B are to be in MODE 3 within 12 hours AND in MODE 4 within 36 hours. A total of 12 hours is allowed for reaching MODE 3 and a total of 36 hours (not 48 hours) is allowed for reaching MODE 4 from the time that Condition B was entered. If MODE 3 is reached within 6 hours, the time allowed for reaching MODE 4 is the next 30 hours because the total time allowed for reaching MODE 4 is 36 hours.

If Condition B is entered while in MODE 3, the time allowed for reaching MODE 4 is the next 36 hours.

EXAMPLE 1.3-2

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One pump inoperable.	A.1 Restore pump to OPERABLE status.	7 days
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

When a pump is declared inoperable, Condition A is entered. If the pump is not restored to OPERABLE status within 7 days, Condition B is also entered and the Completion Time clocks for Required Actions B.1 and B.2 start. If the inoperable pump is restored to OPERABLE status after Condition B is entered, Conditions A and B are exited, and therefore, the Required Actions of Condition B may be terminated.

(continued)

1.3 Completion Times

EXAMPLES

EXAMPLE 1.3-2 (continued)

When a second pump is declared inoperable while the first pump is still inoperable, Condition A is not re-entered for the second pump. LCO 3.0.3 is entered, since the ACTIONS do not include a Condition for more than one inoperable pump. The Completion Time clock for Condition A does not stop after LCO 3.0.3 is entered, but continues to be tracked from the time Condition A was initially entered.

While in LCO 3.0.3, if one of the inoperable pumps is restored to OPERABLE status and the Completion Time for Condition A has not expired, LCO 3.0.3 may be exited and operation continued in accordance with Condition A.

While in LCO 3.0.3, if one of the inoperable pumps is restored to OPERABLE status and the Completion Time for Condition A has expired, LCO 3.0.3 may be exited and operation continued in accordance with Condition B. The Completion Time for Condition B is tracked from the time the Condition A Completion Time expired.

On restoring one of the pumps to OPERABLE status, the Condition A Completion Time is not reset, but continues from the time the first pump was declared inoperable. This Completion Time may be extended if the pump restored to OPERABLE status was the first inoperable pump. A 24 hour extension to the stated 7 days is allowed, provided this does not result in the second pump being inoperable for > 7 days.

(continued)

3.0 LCO APPLICABILITY

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- | | |
|--------------------------|---|
| LCO 3.0.4
(continued) | <p>b. After performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate (exceptions to this Specification are stated in the individual Specifications); or</p> <p>c. When an allowance is stated in the individual value, parameter, or other Specification.</p> |
|--------------------------|---|

This Specification shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

LCO 3.0.5	Equipment removed from service or declared inoperable to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to LCO 3.0.2 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.
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LCO 3.0.6	<p>When a supported system LCO is not met solely due to a support system LCO not being met, the Conditions and Required Actions associated with this supported system are not required to be entered. Only the support system LCO ACTIONS are required to be entered. This is an exception to LCO 3.0.2 for the supported system. In this event, additional evaluations and limitations may be required in accordance with Specification 5.5.11, "Safety Function Determination Program (SFDP)." If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.</p> <p>When a support system's Required Action directs a supported system to be declared inoperable or directs entry into Conditions and Required Actions for a supported system, the applicable Conditions and Required Actions shall be entered in accordance with LCO 3.0.2.</p>
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(continued)

3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

SR 3.0.1 SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the LCO. Failure to perform a Surveillance within the specified Frequency shall be failure to meet the LCO except as provided in SR 3.0.3. Surveillances do not have to be performed on inoperable equipment or variables outside specified limits.

SR 3.0.2 The specified Frequency for each SR is met if the Surveillance is performed within 1.25 times the interval specified in the Frequency, as measured from the previous performance or as measured from the time a specified condition of the Frequency is met.

For Frequencies specified as "once," the above interval extension does not apply.

If a Completion Time requires periodic performance on a "once per . . ." basis, the above Frequency extension applies to each performance after the initial performance.

Exceptions to this Specification are stated in the individual Specifications.

SR 3.0.3 If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is greater. This delay period is permitted to allow performance of the Surveillance. The delay period is only applicable when there is a reasonable expectation the surveillance will be met when performed. A risk evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

When the Surveillance is performed within the delay period and the Surveillance is not met, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

(continued)



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DUKE ENERGY PROGRESS, LLC

DOCKET NO. 50-324

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 309
Renewed License No. DPR-62

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by Duke Energy Progress, LLC, dated October 27, 2016, 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.309, 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 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Undine Shoop, Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Operating License
and Technical Specifications

Date of Issuance: September 6, 2017

ATTACHMENT TO LICENSE AMENDMENT NO. 309

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2

RENEWED FACILITY OPERATING LICENSE NO. DPR-62

DOCKET NO. 50-324

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

Replace the following 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 Pages

1.3-1
1.3-2
1.3-3
1.3-4
1.3-5
3.0-2
3.0-5

Insert Pages

1.3-1
1.3-2
1.3-3
1.3-4
1.3-5
3.0-2
3.0-5

(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. 309, 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

1.3 Completion Times

PURPOSE	The purpose of this section is to establish the Completion Time convention and to provide guidance for its use.
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BACKGROUND	Limiting Conditions for Operation (LCOs) specify minimum requirements for ensuring safe operation of the unit. The ACTIONS associated with an LCO state Conditions that typically describe the ways in which the requirements of the LCO can fail to be met. Specified with each stated Condition are Required Action(s) and Completion Times(s).
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DESCRIPTION	<p>The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the discovery of a situation (e.g., inoperable equipment or variable not within limits) that requires entering an ACTIONS Condition unless otherwise specified, providing the unit is in a MODE or specified condition stated in the Applicability of the LCO.</p> <p>Unless otherwise specified, the Completion Time begins when a senior licensed operator on the operating shift crew with responsibility for plant operations makes the determination that an LCO is not met and an ACTIONS Condition is entered. The "otherwise specified" exceptions are varied, such as a Required Action Note or Surveillance Requirement Note that provides an alternative time to perform specific tasks such as testing, without starting the Completion Time. While utilizing the Note, should a Condition be applicable for any reason not addressed by the Note, the Completion Time begins. Should the time allowance in the Note be exceeded, the Completion Time begins at that point. The exceptions may also be incorporated into the Completion Time. For example, LCO 3.8.1, "AC Sources – Operating," Required Action B.1, requires declaring required feature(s) supported by an inoperable diesel generator inoperable when the redundant required feature(s) are inoperable. The Completion Time states, "Immediately from discovery of Condition B concurrent with inoperability of redundant required feature(s)." In this case the Completion Time does not begin until the conditions in the Completion Time are satisfied.</p>
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(continued)

1.3 Completion Times

DESCRIPTION
(continued)

Required Actions must be completed prior to the expiration of the specified Completion Time. An ACTIONS Condition remains in effect and the Required Actions apply until the Condition no longer exists or the unit is not within the LCO Applicability.

If situations are discovered that require entry into more than one Condition at a time within a single LCO (multiple Conditions), the Required Actions for each Condition must be performed within the associated Completion Time. When in multiple Conditions, separate Completion Times are tracked for each Condition starting from the discovery of the situation that required entry into the Condition, unless otherwise specified.

Once a Condition has been entered, subsequent divisions, subsystems, components, or variables expressed in the Condition, discovered to be inoperable or not within limits, will not result in separate entry into the Condition unless specifically stated. The Required Actions of the Condition continue to apply to each additional failure, with Completion Times based on initial entry into the Condition, unless otherwise specified.

However, when a subsequent division, subsystem, component, or variable expressed in the Condition is discovered to be inoperable or not within limits, the Completion Time(s) may be extended. To apply this Completion Time extension, two criteria must first be met. The subsequent inoperability:

- a. Must exist concurrent with the first inoperability; and
- b. Must remain inoperable or not within limits after the first inoperability is resolved.

The total Completion Time allowed for completing a Required Action to address the subsequent inoperability shall be limited to the more restrictive of either:

- a. The stated Completion Time, as measured from the initial entry into the Condition, plus an additional 24 hours; or
- b. The stated Completion Time as measured from discovery of the subsequent inoperability.

(continued)

1.3 Completion Times

DESCRIPTION
(continued)

The above Completion Time extension does not apply to those Specifications that have exceptions that allow completely separate re-entry into the Condition (for each division, subsystem, component or variable expressed in the Condition) and separate tracking of Completion Times based on this re-entry. These exceptions are stated in individual Specifications.

The above Completion Time extension does not apply to a Completion Time with a modified "time zero." This modified "time zero" may be expressed as a repetitive time (i.e., "once per 8 hours," where the Completion Time is referenced from a previous completion of the Required Action versus the time of Condition entry) or as a time modified by the phrase "from discovery . . ." Example 1.3-3 illustrates one use of this type of Completion Time. The 10 day Completion Time specified for Condition A and B in Example 1.3-3 may not be extended.

EXAMPLES

The following examples illustrate the use of Completion Times with different types of Conditions and changing Conditions.

EXAMPLE 1.3-1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

Condition B has two Required Actions. Each Required Action has its own separate Completion Time. Each Completion Time is referenced to the time that Condition B is entered.

(continued)

1.3 Completion Times

EXAMPLES

EXAMPLE 1.3-1 (continued)

The Required Actions of Condition B are to be in MODE 3 within 12 hours AND in MODE 4 within 36 hours. A total of 12 hours is allowed for reaching MODE 3 and a total of 36 hours (not 48 hours) is allowed for reaching MODE 4 from the time that Condition B was entered. If MODE 3 is reached within 6 hours, the time allowed for reaching MODE 4 is the next 30 hours because the total time allowed for reaching MODE 4 is 36 hours.

If Condition B is entered while in MODE 3, the time allowed for reaching MODE 4 is the next 36 hours.

EXAMPLE 1.3-2

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One pump inoperable.	A.1 Restore pump to OPERABLE status.	7 days
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

When a pump is declared inoperable, Condition A is entered. If the pump is not restored to OPERABLE status within 7 days, Condition B is also entered and the Completion Time clocks for Required Actions B.1 and B.2 start. If the inoperable pump is restored to OPERABLE status after Condition B is entered, Conditions A and B are exited, and therefore, the Required Actions of Condition B may be terminated.

(continued)

1.3 Completion Times

EXAMPLES

EXAMPLE 1.3-2 (continued)

When a second pump is declared inoperable while the first pump is still inoperable, Condition A is not re-entered for the second pump. LCO 3.0.3 is entered, since the ACTIONS do not include a Condition for more than one inoperable pump. The Completion Time clock for Condition A does not stop after LCO 3.0.3 is entered, but continues to be tracked from the time Condition A was initially entered.

While in LCO 3.0.3, if one of the inoperable pumps is restored to OPERABLE status and the Completion Time for Condition A has not expired, LCO 3.0.3 may be exited and operation continued in accordance with Condition A.

While in LCO 3.0.3, if one of the inoperable pumps is restored to OPERABLE status and the Completion Time for Condition A has expired, LCO 3.0.3 may be exited and operation continued in accordance with Condition B. The Completion Time for Condition B is tracked from the time the Condition A Completion Time expired.

On restoring one of the pumps to OPERABLE status, the Condition A Completion Time is not reset, but continues from the time the first pump was declared inoperable. This Completion Time may be extended if the pump restored to OPERABLE status was the first inoperable pump. A 24 hour extension to the stated 7 days is allowed, provided this does not result in the second pump being inoperable for > 7 days.

(continued)

3.0 LCO APPLICABILITY

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- LCO 3.0.4
(continued)
- b. After performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate (exceptions to this Specification are stated in the individual Specifications); or
 - c. When an allowance is stated in the individual value, parameter, or other Specification.

This Specification shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

LCO 3.0.5

Equipment removed from service or declared inoperable to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to LCO 3.0.2 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.

LCO 3.0.6

When a supported system LCO is not met solely due to a support system LCO not being met, the Conditions and Required Actions associated with this supported system are not required to be entered. Only the support system LCO ACTIONS are required to be entered. This is an exception to LCO 3.0.2 for the supported system. In this event, additional evaluations and limitations may be required in accordance with Specification 5.5.11, "Safety Function Determination Program (SFDP)." If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.

When a support system's Required Action directs a supported system to be declared inoperable or directs entry into Conditions and Required Actions for a supported system, the applicable Conditions and Required Actions shall be entered in accordance with LCO 3.0.2.

(continued)

3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

SR 3.0.1 SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the LCO. Failure to perform a Surveillance within the specified Frequency shall be failure to meet the LCO except as provided in SR 3.0.3. Surveillances do not have to be performed on inoperable equipment or variables outside specified limits.

SR 3.0.2 The specified Frequency for each SR is met if the Surveillance is performed within 1.25 times the interval specified in the Frequency, as measured from the previous performance or as measured from the time a specified condition of the Frequency is met.

For Frequencies specified as "once," the above interval extension does not apply.

If a Completion Time requires periodic performance on a "once per . . ." basis, the above Frequency extension applies to each performance after the initial performance.

Exceptions to this Specification are stated in the individual Specifications.

SR 3.0.3 If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is greater. This delay period is permitted to allow performance of the Surveillance. The delay period is only applicable when there is a reasonable expectation the surveillance will be met when performed. A risk evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

When the Surveillance is performed within the delay period and the Surveillance is not met, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

(continued)



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 281 AND 309

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

DUKE ENERGY PROGRESS, LLC

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2

DOCKET NOS. 50-325 AND 50-324

1.0 INTRODUCTION

By application dated October 27, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16319A128), Duke Energy Progress, LLC (Duke Energy, licensee) requested changes to the Technical Specifications (TS) for Brunswick Steam Electric Plant (Brunswick or BSEP) Units 1 and 2. Specifically, the licensee requested changes consistent with Technical Specifications Task Force (TSTF) Traveler TSTF-529, Revision 4, "Clarify Use and Application Rules" dated February 29, 2016 (ADAMS Accession No. ML16062A271).

The licensee proposed changes to Brunswick Units 1 and 2 TS Sections 1.3, "Completion Times," and 3.0, "Limiting Condition for Operation (LCO) Applicability" and "Surveillance Requirement (SR) Applicability." The licensee stated that the proposed changes would clarify and expand the use and application of the plant's TS usage rules. The U.S. Nuclear Regulatory Commission (NRC) reviewed the proposed TS changes against the NRC-approved TSTF and variations identified by the licensee.

2.0 REGULATORY EVALUATION

2.1 Description of Subject Technical Specifications Sections

As specified in Title 10 of the *Code of Federal Regulations* (10 CFR) 50.36(c)(2), limiting conditions for operation (LCOs) are the lowest functional capability or performance levels of equipment required for safe operation of the facility. The actions associated with an LCO state conditions that typically describe the ways in which the requirements of the LCO can fail to be met. Specified with each stated condition are required action(s) and completion time(s).

Brunswick Units 1 and 2 TS Section 1.3, "Completion Times," currently describes completion times as follows:

The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the time of discovery of a situation (e.g., inoperable equipment or variable not within limits)

that requires entering an ACTIONS Condition unless otherwise specified, providing the unit is in a MODE or specified condition stated in the Applicability of the LCO. Required Actions must be completed prior to the expiration of the specified Completion Time. An ACTIONS Condition remains in effect and the Required Actions apply until the Condition no longer exists or the unit is not within the LCO Applicability.

If situations are discovered that require entry into more than one Condition at a time within a single LCO (multiple Conditions), the Required Actions for each Condition must be performed within the associated Completion Time. When in multiple Conditions, separate Completion Times are tracked for each Condition starting from the time of discovery of the situation that required entry into the Condition.

Once a Condition has been entered, subsequent divisions, subsystems, components, or variables expressed in the Condition, discovered to be inoperable or not within limits, will not result in separate entry into the Condition unless specifically stated. The Required Actions of the Condition continue to apply to each additional failure, with Completion Times based on initial entry into the Condition.

Brunswick Units 1 and 2 TS LCO 3.0.1 through LCO 3.0.9 establish the general requirements applicable to all specifications and apply at all times, unless otherwise stated. Similarly, SR 3.0.1 through SR 3.0.4 establish the general requirements for surveillances that are applicable to all specifications and apply at all times, unless otherwise stated.

2.2 Description of Proposed Technical Specifications Changes

The proposed changes would revise the Brunswick Units 1 and 2 TS Sections 1.3 and 3.0. The proposed changes are described in more detail below.

2.2.1 Proposed Changes to "Time of Discovery"

Brunswick Units 1 and 2 TS Section 1.3, "Description," currently states, in part, the following (with emphasis added to "time of"):

The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the time of discovery of a situation (e.g., inoperable equipment or variable not within limits) that requires entering an ACTIONS Condition unless otherwise specified, providing the unit is in a MODE or specified condition stated in the Applicability of the LCO.

Brunswick Units 1 and 2 TS Section 1.3, "Description," also currently states, in part, the following (with emphasis added to "time of"):

If situations are discovered that require entry into more than one Condition at a time within a single LCO (multiple Conditions), the

Required Actions for each Condition must be performed within the associated Completion Time. When in multiple Conditions, separate Completion Times are tracked for each Condition starting from the time of discovery of the situation that required entry into the Condition.

The licensee's proposed changes to Brunswick Units 1 and 2 TS Section 1.3 would delete "time of" from the previous statements so that they read as follows:

The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the discovery of a situation (e.g., inoperable equipment or variable not within limits) that requires entering an ACTIONS Condition unless otherwise specified, providing the unit is in a MODE or specified condition stated in the Applicability of the LCO.

[...]

If situations are discovered that require entry into more than one Condition at a time within a single LCO (multiple Conditions), the Required Actions for each Condition must be performed within the associated Completion Time. When in multiple Conditions, separate Completion Times are tracked for each Condition starting from the discovery of the situation that required entry into the Condition.

The adequacy of this change is discussed in Section 3.1.1.1 of this safety evaluation (SE).

2.2.2 Proposed Addition to "Time of Discovery"

The licensee proposed to add the following paragraph to Section 1.3 of the Brunswick Units 1 and 2 TS under "Description":

Unless otherwise specified, the Completion Time begins when a senior licensed operator on the operating shift crew with responsibility for plant operations makes the determination that an LCO is not met and an ACTIONS Condition is entered. The "otherwise specified" exceptions are varied, such as a Required Action Note or Surveillance Requirement Note that provides an alternative time to perform specific tasks, such as testing, without starting the Completion Time. While utilizing the Note, should a Condition be applicable for any reason not addressed by the Note, the Completion Time begins. Should the time allowance in the Note be exceeded, the Completion Time begins at that point. The exceptions may also be incorporated into the Completion Time. For example, LCO 3.8.1, "AC [Alternating Current] Sources - Operating," Required Action B.1, requires declaring required feature(s) supported by an inoperable diesel generator, inoperable when the redundant required feature(s) are inoperable. The Completion Time states, "Immediately from discovery of Condition B concurrent with inoperability of redundant required

feature(s).” In this case the Completion Time does not begin until the conditions in the Completion Time are satisfied.

The proposed change augments the NRC staff’s expectation that a senior licensed operator on the operating shift crew with responsibility for plant operations makes the determination that an LCO is not met and a Condition is entered. The adequacy of this change is discussed in Section 3.1.1.2 of this SE.

2.2.3 Proposed Addition of “Unless Otherwise Specified”

Brunswick Units 1 and 2 TS Section 1.3, “Description,” currently states the following (with emphasis added to “unless otherwise specified”):

The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the time of discovery of a situation (e.g., inoperable equipment or variable not within limits) that requires entering an ACTIONS Condition unless otherwise specified, providing the unit is in a MODE or specified condition stated in the Applicability of the LCO.

The licensee proposed to add the following sentence right after the above statement to Brunswick Units 1 and 2 TS Section 1.3, which contains the phrase “unless otherwise specified”:

Unless otherwise specified, the Completion Time begins when a senior licensed operator on the operating shift crew with responsibility for plant operations makes the determination that an LCO is not met and an ACTIONS Condition is entered.

In addition, the licensee proposed adding the phrase “unless otherwise specified” to the following two statements:

When in multiple Conditions, separate Completion Times are tracked for each Condition starting from the discovery of the situation that required entry into the Condition, unless otherwise specified.

and

The Required Actions of the Condition continue to apply to each additional failure, with Completion Times based on initial entry into the Condition, unless otherwise specified.

The adequacy of this change is discussed in Section 3.1.1.3 of this SE.

2.2.4 Proposed Changes to TS LCO 3.0.4

Brunswick Units 1 and 2 TS LCO 3.0.4 currently states, in part:

When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall only be made:

- a. When the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time;
- b. After performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate; exceptions to this Specification are stated in the individual Specifications, or
- c. When an allowance is stated in the individual value, parameter, or other Specification.

The licensee proposed to clarify the b. statement above by placing the statement regarding exceptions in parenthesis and replacing the ending comma with a semicolon. The proposed Brunswick Units 1 and 2 TS LCO 3.0.4 would state the following:

When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall only be made:

- a. When the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time;
- b. After performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate (exceptions to this Specification are stated in the individual Specifications); or
- c. When an allowance is stated in the individual value, parameter, or other Specification.

The adequacy of this change is discussed in Section 3.1.2 of this SE.

2.2.5 Proposed Changes to TS SR 3.0.3

Brunswick Units 1 and 2 TS SR 3.0.3 currently states the following:

If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is greater. This delay period is permitted to allow performance of the Surveillance. A risk evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

When the Surveillance is performed within the delay period and the Surveillance is not met, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

The licensee proposed to change Brunswick Units 1 and 2 TS SR 3.0.3 to state the following (the additional sentence is underlined):

If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is greater. This delay period is permitted to allow performance of the Surveillance. The delay period is only applicable when there is a reasonable expectation the surveillance will be met when performed. A risk evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

When the Surveillance is performed within the delay period and the Surveillance is not met, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

The adequacy of this change is discussed in Section 3.1.3 of this SE.

2.3 Regulatory Requirements, Licensing Information, Guidance Documents

The NRC staff considered the following regulatory requirements, guidance, and licensing information during its review of the proposed changes.

Under 10 CFR 50.36(c), TSs are required to include items in the following categories: (1) safety limits, limiting safety system settings, and limiting control settings; (2) LCOs; (3) SRs; (4) design features; (5) administrative controls; (6) decommissioning; (7) initial notification; and (8) written reports.

Section 50.36(c)(2) of 10 CFR states that:

Limiting conditions for operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met. When a limiting condition for operation of any process step in the system of a fuel reprocessing plant is not met, the licensee shall shut down that part of the operation or follow any remedial action permitted by the technical specifications until the condition can be met.

Section 50.36(c)(3) of 10 CFR states that “[s]urveillance 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 NRC staff’s guidance for the review of the TSs is in NUREG-0800, “Standard Review Plan [SRP] for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light-Water Reactor] Edition,” Chapter 16, “Technical Specifications,” Revision 3, dated March 2010 (ADAMS Accession No. ML100351425). As described therein, as part of the regulatory standardization effort, the staff has prepared improved Standard Technical Specifications (STs) for each of the LWR nuclear steam supply systems and associated balance-of-plant equipment systems. The licensee’s proposed amendment is based on TSTF-529, Revision 4, which is a change to the improved STs that the NRC approved in April 2016 (ADAMS Accession No. ML16060A440). The staff’s review includes consideration of whether the proposed changes are consistent with the NRC-approved TSTF-529, Revision 4. Special attention is given to TS provisions that depart from the improved STs, as modified by NRC-approved TSTF travelers, to determine whether proposed differences are justified by uniqueness in plant design or other considerations so that 10 CFR 50.36 is met. In addition, the guidance states that comparing the change to previous STs can help clarify the TS intent.

3.0 TECHNICAL EVALUATION

During the review of TSTF-529, Revision 4, the NRC staff considered generally the guidance on acceptance criteria of the SRP sections described in Section 2.3 of this SE, and, in particular, the acceptance criteria in Chapter 16, “Technical Specifications,” of NUREG-0800, Revision 3. Additionally, the NRC staff evaluated the proposed changes to the Brunswick Units 1 and 2 TS against what is required to be in the TS under 10 CFR 50.36.

3.1 Requested Changes

3.1.1 Proposed Changes to Section 1.3, "Completion Times"

3.1.1.1 Proposed Changes to "Time of Discovery"

The only mention of the term "time of discovery" in relation to completion times is in Brunswick Units 1 and 2 TS Section 1.3 (quoted in Section 2.2.1 of this SE). Throughout the Brunswick Units 1 and 2 TS, the term "discovery" is used to describe the point in time that it is recognized that the requirements of an LCO are not met. For example, TS LCO 3.0.2 requires in part that upon discovery of a failure to meet an LCO, the required actions of the associated conditions shall be met, except as provided in LCO 3.0.5 and LCO 3.0.6. In addition, the Bases to LCO 3.0.2, state, in part, "LCO 3.0.2 establishes that upon discovery of a failure to meet an LCO, the associated ACTIONS shall be met."

The proposed changes to Brunswick Units 1 and 2 TS Section 1.3 would delete "time of" from the previous statements. The NRC staff finds the proposed change acceptable because it makes Section 1.3 consistent with the language used throughout the rest of the TS. This provides clarity to the term "discovery" and, therefore, provides a clear and objective application of the TS required actions and associated completion times. The change is editorial since it does not change the requirements currently in the TS. Therefore, the NRC staff finds the proposed change acceptable.

3.1.1.2 Proposed Addition to "Time of Discovery"

The licensee also proposed to add the following paragraph to Section 1.3 of the Brunswick Units 1 and 2 TS under "Description":

Unless otherwise specified, the Completion Time begins when a senior licensed operator on the operating shift crew with responsibility for plant operations makes the determination that an LCO is not met and an ACTIONS Condition is entered. The "otherwise specified" exceptions are varied, such as a Required Action Note or Surveillance Requirement Note that provides an alternative time to perform specific tasks, such as testing, without starting the Completion Time. While utilizing the Note, should a Condition be applicable for any reason not addressed by the Note, the Completion Time begins. Should the time allowance in the Note be exceeded, the Completion Time begins at that point. The exceptions may also be incorporated into the Completion Time. For example, LCO 3.8.1, "AC Sources - Operating," Required Action B.1, requires declaring required feature(s) supported by an inoperable diesel generator, inoperable when the redundant required feature(s) are inoperable. The Completion Time states, "Immediately from discovery of Condition B concurrent with inoperability of redundant required feature(s)." In this case the Completion Time does not begin until the conditions in the Completion Time are satisfied.

The operating shift crew is responsible for overall control of facility operation. As part of that responsibility, the operating shift crew must be aware of the status of the plant and the condition

of structures, systems, and components. This includes the status of degraded or nonconforming conditions that may affect plant operation. Therefore, the proposed change simply augments the NRC staff's expectation that a senior licensed operator on the operating shift crew with responsibility for plant operations makes the determination that an LCO is not met and a condition is entered. The phrase "and an ACTIONS Condition is entered" in the above proposed insertion, is necessary to accommodate circumstances in which LCO 3.0.6 allows an LCO to not be met without entry into the conditions. In those circumstances, a Completion Time does not begin. In addition, an example is added to the proposed insertion in order to explain the concept presented.

The NRC staff finds the proposed change acceptable since it clarifies senior reactor operators' responsibilities and the allowances of LCO 3.0.6, and, therefore, provides a clear and objective application of the TS required actions and associated completion times.

3.1.1.3 Proposed Addition of "Unless Otherwise Specified"

The phrase, "unless otherwise specified," in Brunswick Units 1 and 2 TS Section 1.3, refers to those instances in which TS LCOs define the start of the completion time as different from "discovery." For example, Brunswick Units 1 and 2 TS 3.8.1, "AC Sources - Operating," Required Action B.1, calls for declaring required feature(s) supported by an inoperable diesel generator inoperable when the redundant required feature(s) are inoperable. The completion time states, "Immediately from discovery of Condition B concurrent with inoperability of redundant required feature(s)." In this case, the completion time does not begin until the conditions in the completion time are satisfied.

As discussed in Section 2.2.3 of this SE, the licensee proposed to add the following sentence to Brunswick Units 1 and 2 TS Section 1.3, which contains the phrase "unless otherwise specified":

Unless otherwise specified, the Completion Time begins when a senior licensed operator on the operating shift crew with responsibility for plant operations makes the determination that an LCO is not met and an ACTIONS Condition is entered.

In addition, the licensee proposed adding the phrase "unless otherwise specified" to the following two statements:

When in multiple Conditions, separate Completion Times are tracked for each Condition starting from the discovery of the situation that required entry into the Condition, unless otherwise specified.

and

The Required Actions of the Condition continue to apply to each additional failure, with Completion Times based on initial entry into the Condition, unless otherwise specified.

The addition of the phrase "unless otherwise specified" acknowledges that there are instances, as indicated in the individual TS, when the completion time does not start at discovery. These exceptions are varied, such as when a required action note or SR note provides an alternative

time to perform specific tasks, such as testing, without starting the completion time. While utilizing the note, should a condition be applicable for any reason not addressed by the note, the completion time begins. Should the time allowance in the note be exceeded, the completion time begins at that point as well.

The NRC staff finds the proposed change acceptable since it clarifies that there are exceptions and, therefore, provides a clear and objective application of the Brunswick Units 1 and 2 TS required actions and associated completion times.

3.1.2 Proposed Changes to TS LCO 3.0.4

As stated in Section 2.2.4 of this SE, the current Brunswick Units 1 and 2 TS LCO 3.0.4 contains three options (a, b, and c). Paragraph a ends with a semicolon and paragraph b ends with “, or”.

The LCO 3.0.4.b statement: “After performance of a risk assessment ... stated in the individual Specifications, or,” could lead to operator misinterpretation. Operators could misapply this statement by believing that the “or” applies to the phrase regarding exceptions and that LCO 3.0.4.a, b, and c apply concurrently.

The licensee proposed to clarify this sentence by placing the statement regarding exceptions in parentheses and replacing the ending comma with a semicolon. The proposed Brunswick Units 1 and 2 TS LCO 3.0.4 would state the following: “After performance of a risk assessment ... if appropriate (exceptions to this specification are stated in the individual Specifications); or”.

The NRC staff finds that the proposed change is editorial since it does not change the requirements currently in the TS. The NRC staff finds the proposed change acceptable since it removes potential for misapplication of TS LCO 3.0.4 allowances, and, therefore, provides a clear and objective application of the Brunswick Units 1 and 2 TS Required Actions.

3.1.3 Proposed Changes to TS SR 3.0.3

The NRC has typically interpreted TS SR 3.0.3, which is quoted in Section 2.2.5 of this SE, as inapplicable to SRs that have never been previously performed. This is because the allowance provided by TS SR 3.0.3 is based on the fact that the SR was satisfactorily met in the past and the most probable result of performing the SR is the verification of conformance with the requirements. Therefore, there is a reasonable expectation the SR will be met when performed.

However, the NRC staff recognizes that there are instances in which an SR may not have been performed in the past, but there is still a reasonable expectation the SR will be met when performed. For example, an SR requires testing of a relay contact. A licensee finds the relay contact has never been tested as required in accordance with a particular SR. That licensee, however, finds there is a reasonable expectation the SR will be met when performed because the subject relay contact has been tested by another SR or historical operation of the subject relay contact has been successful.

The delay period allowed by Brunswick Units 1 and 2 TS SR 3.0.3 offers adequate time to complete SRs that have been missed. In addition, this delay period permits the completion of an SR before complying with required actions or other remedial measures that might preclude completion of the SR. The NRC staff finds the application of the delay period provided by Brunswick Units 1 and 2 TS SR 3.0.3 acceptable for use on SRs that have never been

performed so long as licensees can provide an adequate determination of a reasonable expectation the SR will be met when performed.

The licensee-proposed Brunswick Units 1 and 2 TS SR 3.0.3 states the following (the new sentence reflecting the inclusion of SRs that have never been performed is underlined):

If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is greater. This delay period is permitted to allow performance of the Surveillance. The delay period is only applicable when there is a reasonable expectation the surveillance will be met when performed. A risk evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

When the Surveillance is performed within the delay period and the Surveillance is not met, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

When making a determination of reasonable expectation that the SR will be met when performed, the licensee should consider many factors. These factors include, but are not limited to, things such as the period of time since the SR was last performed, or whether the SR, or a portion thereof, has ever been performed, and many other indications, tests, or activities that might support the expectation that the SR will be met when performed. It is not sufficient to infer the behavior of the associated equipment from the performance of similar equipment. The rigor of determining whether there is a reasonable expectation an SR will be met when performed should increase based on the length of time since the last performance of the SR. If the SR has been performed recently, a review of the SR history and equipment performance may be sufficient to support a reasonable expectation that the SR will be met when performed. For SRs that have not been performed for a long period or that have never been performed, a rigorous evaluation based on objective evidence should provide a high degree of confidence that the equipment is capable of performing its specified safety function(s). The evaluation should be documented in sufficient detail to allow a knowledgeable individual to understand the basis for the determination.

The proposed change, which expands the scope of TS SR 3.0.3 to SRs that have never been performed, is acceptable because it requires there to be an adequate determination of a reasonable expectation the SR will be met when performed. In addition, the proposed change augments plant safety since it could prevent unnecessary shutdowns by providing adequate time to complete SRs that have never been performed but are likely to achieve satisfactory results.

3.2 Variations

Duke Energy proposed the following variations from the TS changes described in TSTF-529:

1. In the Generic BWR [Boiling Water Reactor]-4 TS on page 1.3-1, the insertion mentions "LCO 3.8.1, 'AC Sources - Operating,' Required Action B.2," and a Completion Time of 4 hours. In the Brunswick Unit 1 and Unit 2 TS, this is Required Action B.1, and the Completion Time is immediately.
2. Changes shown on Generic BWR-4 TS page 1.3-2 actually appear on Brunswick Unit 1 and Unit 2 TS page 1.3-1.
3. Changes addressing Generic BWR-4 TS SR 3.0.3 appear on an unnumbered page of the TSTF-529 model TS. The corresponding changes in the current Brunswick Unit 1 and Unit 2 TSs appear on page 3.0-5.

The NRC staff finds that these variations are administrative in nature and do not affect the applicability of TSTF-529 to the Brunswick Unit 1 and Unit 2 TS.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State official was notified of the proposed issuance of the amendment on July 21, 2017. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20 and change SRs. The NRC staff has determined that the amendments involve 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 amendments involve no significant hazards consideration, and there has been no public comment on such finding published in the *Federal Register* on March 14, 2017 (82 FR 13665). Accordingly, the amendments meet 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 amendments.

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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: C. Tilton

Date: September 6, 2017

SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2 – ISSUANCE OF AMENDMENTS TO ADOPT TSTF-529, REV. 4, "CLARIFY USE AND APPLICATION RULES" (CAC NOS. MF8819 AND MF8820) DATED SEPTEMBER 6, 2017

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