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November 15, 2017

10 CFR 50.90
10 CFR 50.48(c)(2)(vii)

Serial: BSEP 17-0017

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

Subject: Brunswick Steam Electric Plant, Unit Nos. 1 and 2
Renewed Facility Operating License Nos. DPR-71 and DPR-62
Docket Nos. 50-325 and 50-324
Request for License Amendment for Performance-Based Fire Protection
Alternative for Thermal Insulation Material

Reference: 1. Letter from Andrew Hon (NRC) to William R. Gideon (Duke Energy),
*Issuance of Amendment Regarding Transition to a Risk-Informed ,
Performance-Based Fire Protection Program in Accordance With
10 CFR 50.48(c)*, dated January 28, 2015, ADAMS Accession Numer
ML14310A808.

Ladies and Gentlemen:

In accordance with 10 CFR 50.48(c)(2)(vii) and 10 CFR 50.90, Duke Energy Progress, LLC (Duke Energy), is submitting a request for an amendment to the Renewed Facility Operating Licenses (RFOL) for the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2. The proposed amendment would modify the RFOL to allow, as a performance-based method, certain currently-installed thermal insulation materials to be retained and allow future use of these insulation materials in limited applications subject to appropriate engineering reviews and controls, as a deviation from the NFPA 805 Chapter 3, Section 3.3, *Prevention*.

Enclosure 1 provides the technical basis for this request. Enclosures 2 and 3 provide marked-up pages of the existing Unit 1 and 2 RFOLs, respectively. Enclosures 4 and 5 provide revised (i.e., typed) RFOL pages for Units 1 and 2, respectively. Enclosure 6 provides a copy, for information only, of the proposed update to Calculation 0FP-1213, *Code Compliance Evaluation NFPA 805, Performance-Based Standard for Fire Protection for Light-Water Reactor Electric Generating Plants – 2001 Edition*, which is cited in Section 9.5.1.2.1.2 in the BSEP Updated Final Safety Analysis Report as the plant's compliance documentation with Chapter 3 of NFPA 805.

Duke Energy requests approval of this proposed license amendment request by November 30, 2018, with the amendment being implemented within 120 days.

In accordance with 10 CFR 50.91, Duke Energy is providing a copy of the proposed license amendment to the designated representative for the State of North Carolina.

A006
NRR

Please refer any questions regarding this submittal to Mr. Lee Grzeck, Manager - Regulatory Affairs, at (910) 832-2487.

I declare, under penalty of perjury, that the foregoing is true and correct. Executed on November 15, 2017.

Sincerely,



William R. Gideon

WRM/wrm

Enclosures:

1. Technical Basis for Proposed License Amendment
2. Marked-up Renewed Facility Operating License Pages – Unit 1
3. Marked-up Renewed Facility Operating License Pages – Unit 2
4. Revised Renewed Facility Operating License Pages – Unit 1
5. Revised Renewed Facility Operating License Pages – Unit 2
6. Update to Calculation 0FP-1213, *Code Compliance Evaluation NFPA 805, Performance-Based Standard for Fire Protection for Light-Water Reactor Electric Generating Plants – 2001 Edition*

cc (with enclosures):

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Proposed License Amendment for Performance-Based Fire Protection Alternative

1.0 Summary Description

This evaluation supports a request to amend the Renewed Facility Operating Licenses (RFOL) for the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2.

The proposed license amendment request (LAR) revises fire protection license condition 2.B.(6) for BSEP, Units 1 and 2, to allow, as a performance-based method, certain currently-installed thermal insulation materials to be retained and allow future use of these insulation materials in limited applications subject to appropriate engineering reviews and controls, as a deviation from the NFPA 805 Chapter 3, Section 3.3, *Prevention*. This request is being made in accordance with 10 CFR 50.48(c)(2)(vii), to use a performance-based method fire protection program element.

By letter dated January 28, 2015, the NRC issued a license amendment approving the transition of the fire protection licensing basis for BSEP, Units 1 and 2, to National Fire Protection Association (NFPA) Standard 805. The updates to the RFOL associated with the NFPA 805 transition established provisions that allow Duke Energy Progress, LLC (Duke Energy), to make risk-informed changes to the Fire Protection Program provided the change has no more than minimal impact. The ability to make these risk-informed changes to the fire protection program is limited to four specific sections of NFPA 805, Chapter 3, as stipulated by RFOL Condition 2.B.(6)(b)1.

In several areas at BSEP, exposed thermal insulation materials are installed on various heating, ventilation and air conditioning (HVAC) system piping to prevent sweating. Although these materials comply with the flame spreading rating of 25 or less, these materials do not meet the definition of a limited combustible due to the heat value exceeding 3,500 BTU/lb. This submittal requests NRC approval of a change to the RFOL to allow, as a performance-based method, certain currently-installed thermal insulation materials to be retained and allow future use of these insulation materials in limited applications subject to appropriate engineering reviews and controls, as a deviation from the NFPA 805 Chapter 3, Section 3.3, *Prevention*.

2.0 Assessment

2.1 Proposed Change

The proposed amendment will revise fire protection license conditions 2.B.(6) and 2.B.6.(b)2 for BSEP, Units 1 and 2, as shown below:

License Condition 2.B.(6):

(6) Fire Protection

Duke Energy Progress, LLC shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the license amendment requests dated September 25, 2012, as supplemented by letters dated December 17, 2012; June 28, 2013; July 15, 2013; July 31, 2013; August 29, 2013; September 30, 2013; February 28, 2014; March 14, 2014;

April 10, 2014; June 26, 2014; August 15, 2014; August 29, 2014; November 20, 2014; and December 18, 2014; as approved in the safety evaluations dated January 28, 2015, and [[INSERT DATE]], 2017, as approved in the safety evaluation dated [[INSERT DATE]], 2018. 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.

License Condition 2.B.(6)(b)2:

2. Fire Protection Program Changes that Have No More than Minimal Risk Impact

Prior NRC review and approval is not required for changes to the licensee's fire protection program that have been demonstrated to have no more than a minimal risk impact. The licensee may use its screening process as approved in the NRC safety evaluations dated January 28, 2015, and [[INSERT DATE]], 2018, to determine that certain fire protection program changes meet the minimal criterion. The licensee shall ensure that fire protection defense-in-depth and safety margins are maintained when changes are made to the fire protection program.

2.2 Basis for Request

National Fire Protection Association (NFPA) Standard 805, Section 3.3.4, states:

Thermal insulation materials, radiation shielding materials, ventilation duct materials, and soundproofing materials shall be noncombustible or limited combustible.

NFPA 805 Section 1.6.36 has re-defined earlier definitions of non-combustible material to the now current definition of limited combustible material:

Material that, in the form in which it is used, has a potential heat value not exceeding 3500 Btu/lb (8141 kJ/kg) and either has a structural base of noncombustible material with a surfacing not exceeding a thickness of 1/8 in. (3.2 mm) that has a flame spread rating not greater than 50, or has another material having neither a flame spread rating greater than 25 nor evidence of continued progressive combustion, even on surfaces exposed by cutting through the material on any plane.

As such, the definition of a limited combustible in NFPA 805 now includes requirements for materials to have a heat of combustion less than 3,500 BTU/lb.

A number of plant locations were identified where insulation material is used for maintaining efficiency of the system and/or preventing pipe sweat. Locations were identified in the Control Building, Reactor Buildings, Turbine Buildings, Radioactive Waste Building, and Augmented Off-Gas Building, on piping associated with heating, ventilation and air conditioning systems supporting Power Block structures including the following:

- System 8260 – Turbine Building HVAC – piping routed in the Turbine Building
- System 8185 – Reactor Building HVAC – piping routed in the Reactor Building
- System 8220 – Control Building HVAC – HVAC Equipment Room
- System 8280 – Radwaste Building HVAC – piping routed in the Radwaste Building
- System 8270 – Augmented Off-Gas Building HVAC – piping routed in Augmented Off-Gas Building

The locations are listed in Attachment 1.

These insulation materials meet requirements for flame spread rating of 25 or less, as measured using the test method of ASTM E-84, but do not meet the current decreased heat value content requirement based on the definition of a limited combustible due to the heat value exceeding 3,500 BTU/lb. The heat contribution values of the thermal insulation materials installed at BSEP, Units 1 and 2, were noted as having heat contribution values of approximately 9,000 to 11,000 BTU/lb which, while higher than the definition, are not considered to contribute appreciably to the spread of fire nor represent a secondary combustible beyond those currently analyzed in the Fire Probabilistic Risk Analysis (PRA) due to the limited applications.

The basis for the approval of this request is:

- The forms in which the thermal insulation are installed, and the conditions anticipated, meet the intent of the revised limited combustible material definition because the materials used at BSEP have a flame spread rating of 25 or less and will not support continued progressive combustion. Specifically, the thermal insulation materials used at BSEP have flame spread and smoke developed ratings of 25 and 50 per ASTM E-84, respectively. Although the thermal insulation materials exceed the NFPA 805 heat value of 3,500 BTU/lb, these insulation materials (i.e., polyisocyanurate/foam insulation) will not contribute significantly to fire per ASTM E-84.
- The three echelons of defense-in-depth are:
 - 1) prevent fires from starting (i.e., combustible/hot work controls),
 - 2) rapidly detect, control, and extinguish fires that do occur thereby limiting damage (i.e., fire detection systems, automatic fire suppression, manual fire suppression, pre-fire plans), and,
 - 3) provide an adequate level of fire protection for systems and structures so that a fire will not prevent essential safety functions from being performed (i.e., fire barriers, fire rated cable, success path remains free of fire damage, recovery actions).
- The forms in which the thermal insulation are installed and the conditions anticipated do not impact the three echelons of defense-in-depth as discussed in Section 2.4 below.
- The forms in which the thermal insulation materials are installed and the conditions anticipated do not impact nuclear safety. The limited applications of exposed thermal insulation materials do not compromise post-fire safe shutdown capability as previously designed, reviewed, and considered. Essential safety functions are maintained and capable of being performed.

- The identified installations were evaluated against the fire scenarios supporting the Fire PRA. In all instances, the supporting analyses and existing fire scenarios were found to be bounding (i.e., expanded zones of influence (ZOIs) would not fail additional Fire PRA targets) or there were no Fire PRA credited targets in the area. Duke Fleet Procedures which govern the Engineering Change Process are in place to review future installation impacts to the Fire Protection Program and Fire PRA, resulting in updates to the applicable analyses and calculations as required.

The identified installations were evaluated against the fire scenarios supporting the Fire PRA. In all instances, the supporting analyses and existing fire scenarios were found to be bounding or there were no Fire PRA credited targets in the area. The limited applications of exposed thermal insulation material were not of a quantity that would impact the fire scenarios or zones of influences and target failures developed in support of the fire and PRA analysis, and do not compromise automatic fire suppression functions, manual fire suppression functions, or post-fire safe shutdown capability as previously designed, reviewed and considered. Duke Fleet Procedures which govern the Engineering Change Process are in place to review future installation impacts to the Fire Protection Program and Fire PRA, resulting in updates to the applicable analyses and calculations as required.

2.3 Nuclear Safety and Radiological Release Performance Criteria

The use of thermal insulation material other than non-combustible and more than limited combustible in the plant does not affect nuclear safety. The limited applications of exposed thermal insulation materials do not compromise post-fire safe shutdown capability as previously designed, reviewed, and considered. Essential safety functions are maintained and capable of being performed.

The forms in which the thermal insulation materials are installed and the conditions anticipated meet the intent of the revised limited combustible material definition because the materials used at BSEP have a flame spread rating of 25 or less and will not support continued progressive combustion. The selection and application of thermal insulation material is controlled per the BSEP piping and equipment thermal insulation specification. The Fire PRA development requires the inclusion of the effect of intervening or secondary combustibles to be documented and included in the analysis where determined to have fire effects as part of the performance-based approach. Duke Fleet Procedures which govern the Engineering Change Process are in place to review future installation impacts to the Fire Protection Program and Fire PRA, resulting in updates to the applicable analyses and calculations as required.

Plant walkdowns concluded that there were no large concentration installations of thermal insulation in the plant. The most common applications are for maintaining efficiency of the system and/or preventing pipe sweat. The impact of the negligible quantities of exposed materials was noted to be bounded by the currently analyzed fire scenario ZOIs, and did not result in new or expanded ZOIs that impacted additional Fire PRA targets. No existing fire scenarios as considered in the Fire PRA were adversely impacted.

The use of insulation material other than non-combustible and more than limited combustible has no impact on the radiological release performance criteria. The radiological release review was performed based on the manual fire suppression activities in areas containing or potentially containing radioactive materials and is not dependent on the type of thermal insulation material.

The insulation material, regardless of heat contribution value, does not change the radiological release evaluation performed that concluded that potentially contaminated water is contained and smoke is monitored. The insulation materials do not add additional radiological materials to the area or challenge systems boundaries.

2.4 Safety Margin and Defense-in-Depth

The forms in which the thermal insulation are installed and the conditions anticipated meet the intent of the revised limited combustible material definition because the materials used at BSEP have a flame spread rating of 25 or less and will not support continued progressive combustion. The insulation material, and specifically the increase in heat contribution in conjunction with the limited applications, does not compromise automatic fire suppression functions, manual fire suppression functions, or post-fire safe shutdown capability as previously designed, reviewed, and considered. Therefore, the safety margin inherent in the analysis for the fire event has been preserved.

The insulation materials in the current configurations are considered as non-cable intervening combustibles and are bound by the Fire PRA, and safety margin is not affected. The selection and application of thermal insulation material is controlled per the BSEP piping and equipment thermal insulation specification. Duke Fleet Procedures which govern the Engineering Change Process are in place to review future installation impacts to the Fire Protection Program and Fire PRA, resulting in updates to the applicable analyses and calculations as required. The precautions and limitations on the use of these materials do not impact the fire safety analysis of the fire event. Therefore, the inherent safety margin and conservatism in these analysis methods remain unchanged.

As previously stated, the three echelons of defense-in-depth are:

- 1) prevent fires from starting (i.e., combustible/hot work controls),
- 2) rapidly detect, control, and extinguish fires that do occur, thereby limiting damage (i.e., fire detection systems, automatic fire suppression, manual fire suppression, pre-fire plans), and,
- 3) provide adequate level of fire protection for systems and structures so that a fire will not prevent essential safety functions from being performed (i.e., fire barriers, fire rated cable, success path remains free of fire damage, recovery actions).

The use of insulation material which is non-combustible or more than limited combustible does not affect Echelons 1, 2, and 3. The insulation material, and specifically the increase in heat contribution in conjunction with the limited applications, does not introduce new ignition sources, does not exceed the design bases of installed fire protection systems, does not compromise manual fire suppression functions, and does not adversely impact fire protection systems and features or post-fire safe shutdown capability as previously designed, reviewed, and considered.

Echelon 1: Prevent Fires from Starting:

With regard to Echelon 1, the thermal insulation does not introduce new ignition sources and presents a negligible hazard in terms of secondary or intervening combustibles. The forms in which the thermal insulation are installed and the conditions anticipated meet the intent of the revised limited combustible material definition because the materials used at BSEP have a flame spread rating of 25 or less and will not support continued progressive combustion.

Specifically, the thermal insulation materials used at BSEP have flame spread and smoke developed ratings of 25 and 50 per ASTM E-84, respectively. Although the thermal insulation materials exceed the NFPA 805 heat value of 3,500 BTU/lb, these materials will not contribute significantly to fire per ASTM E-84.

The selection and application of thermal insulation material is controlled per the BSEP piping and equipment thermal insulation specification. Duke Fleet Procedures which govern the Engineering Change Process are in place to review future installation impacts to the Fire Protection Program and Fire PRA, resulting in updates to the applicable analyses and calculations as required.

Echelon 2: Rapidly Detect, Control and Extinguish Fires that do Occur thereby Limiting Damage:

With regard to Echelon 2, the limited applications of exposed thermal insulation materials installed for industrial personnel safety and on miscellaneous system piping do not result in increased combustible loading which would challenge the design bases of the installed fire protection systems. The presence of the thermal insulation and associated procedural controls do not impact the ability of the automatic suppression and detection systems to perform credited functions, as the materials at BSEP are limited in application and will not support continued progressive combustion. Portable fire extinguishers and hose stations are available for manual firefighting activities by the site fire brigade. Therefore, if a fire was to occur, damage would be limited.

Echelon 3: Provide Adequate Level of Fire Protection for Systems and Structures so that a Fire will not Prevent Essential Safety Functions from being Performed:

With regard to Echelon 3, the limited applications of exposed thermal insulation materials installed for industrial personnel safety and on miscellaneous system piping do not adversely impact the installed fire protection systems and features, and essential safety functions are maintained and capable of being performed. The insulation material does not compromise post-fire safe shutdown capability as previously designed, reviewed, and considered. The forms in which the thermal insulation are installed and the conditions anticipated meet the intent of the revised limited combustible material definition because the materials used at BSEP have a flame spread rating of 25 or less and will not support continued progressive combustion. The identified installations were evaluated against the fire scenarios supporting the Fire PRA. In all instances, the supporting analyses and existing fire scenarios were found to be bounding (i.e., expanded zones of influence would not fail additional Fire PRA targets) or there were no Fire PRA credited targets in the area. Duke Fleet Procedures which govern the Engineering Change Process are in place to review future installation impacts to the Fire Protection Program and Fire PRA, resulting in updates to the applicable analyses and calculations as required. The presence of the thermal insulation does not compromise automatic/manual fire protection functions, or post-fire safe shutdown capability and will not prevent essential safety functions from being performed.

2.5 Conclusion

NRC approval is requested for use of thermal insulation materials that meet the flame spread criteria, but do not meet the heat value content criteria of NFPA 805. Duke Energy has determined that the approach satisfies the following criteria:

- the performance goals, performance objectives, and performance criteria specified in NFPA 805 related to nuclear safety and radiological release;
- maintains safety margin; and,
- maintains fire protection defense-in-depth (i.e., fire prevention, fire detection, fire suppression, mitigation, and post-fire safe shutdown capability).

3.0 Regulatory Evaluation

3.1 No Significant Hazards Consideration Analysis

The proposed change will allow certain polyisocyanurate and foam thermal insulation materials which are currently installed on miscellaneous system piping at the Brunswick Steam Electric Plant, Units 1 and 2, to be retained, and to allow future use of these insulation materials in limited applications subject to appropriate engineering reviews and controls. An evaluation of these materials has determined they do not contribute appreciably to the spread of fire, nor represent a secondary combustible beyond those currently analyzed in the Fire Probabilistic Risk Analysis (PRA) due to the limited applications where these materials are installed. As such, Duke Energy is requesting this license amendment pursuant to 10 CFR 50.48(c)(2)(vii) and 10 CFR 50.90.

Duke Energy has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10 CFR 50.92, *Issuance of amendment*, as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

A fire hazards evaluation was performed for the areas of the plant where the identified insulation materials are installed. The fire hazards evaluation demonstrates that these materials do not contribute appreciably to the spread of fire, nor represent a secondary combustible beyond those currently analyzed in the Fire Probabilistic Risk Analysis (FPRA) due to the limited applications where these materials are installed. Therefore, it is concluded that this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The identified installations of the insulation materials were evaluated against the fire scenarios supporting the FPRA. In all instances, the supporting analyses and existing

fire scenarios were found to be bounding. Expanded zones of fire influence would not fail additional FPRA targets, or there were no FPRA credited targets in the area. Therefore, it is concluded that this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The limited installations of the insulation materials do not compromise post-fire safe shutdown capability as previously designed, reviewed, and considered. Essential fire protection safety functions are maintained and are capable of being performed. Because the insulation materials do not compromise post-fire safe shutdown capability as previously designed, reviewed, and considered, it is concluded that this change does not involve a significant reduction in a margin of safety.

3.2 Future Installations

Future installations of these insulation materials (i.e., polyisocyanurate/foam insulation) will be controlled by the design engineering change process per procedure AD-EG-ALL-1132, *Preparation and Control of Design Change Engineering Changes*. This will ensure the necessary fire protection reviews per AD-EG-ALL-1502, *Fire Protection Impact Screening for Plant Design Changes*, and AD-EG-ALL-1501, *Fire Protection Change Process*, are completed, and evaluate the new installations and affects they would have on fire safety analyses and the Fire PRA. Specification 249-002 includes a requirement preventing installation of foam, polyisocyanurate, and other combustible insulations greater than 3,500 BTU/lb without a design change and fire protection review.

3.3 Applicable Regulatory Requirements

By letter dated January 28, 2015, the NRC issued a license amendment approving the transition of the fire protection licensing basis for BSEP, Units 1 and 2, to National Fire Protection Association (NFPA) Standard 805.

Paragraph (2) of 10 CFR 50.48(c), *National Fire Protection Association Standard NFPA 805*, describes exceptions and modifications to the NRC's requirements regarding use of NFPA 805. 10 CFR 50.48(c)(2)(vii) states that performance-based methods may be used for fire protection program elements and minimum design requirements, subject to being submitted to the NRC in the form of a license amendment request under 10 CFR 50.90.

NFPA 805 Section 3.3.4 states:

Thermal insulation materials, radiation shielding materials, ventilation duct materials, and soundproofing materials shall be noncombustible or limited combustible.

NFPA 805 Section 1.6.36 has re-defined earlier definitions of non-combustible material to the now current definition of limited combustible material:

Material that, in the form in which it is used, has a potential heat value not exceeding 3500 Btu/lb (8141 kJ/kg) and either has a structural base of noncombustible material with a

surfacing not exceeding a thickness of 1/8 in. (3.2 mm) that has a flame spread rating not greater than 50, or has another material having neither a flame spread rating greater than 25 nor evidence of continued progressive combustion, even on surfaces exposed by cutting through the material on any plane.

As such, the definition of a limited combustible in NFPA 805 now includes requirements for materials to have a heat of combustion less than 3,500 BTU/lb.

In several areas at BSEP, exposed thermal insulation materials are installed on various HVAC system piping to prevent sweating. Although these materials comply with the flame spreading rating of 25 or less, these materials do not meet the definition of a limited combustible due to the heat value exceeding 3,500 BTU/lb. As such, in lieu of replacing these insulation materials, and to allowed future use of these materials in selected applications, Duke Energy is requesting this license amendment pursuant to 10 CFR 50.48(c)(2)(vii) and 10 CFR 50.90.

3.4 Precedents

Similar requests for performance-based methods have been included in other license amendment requests to transition to fire protection licensing basis under NFPA 805. Examples include:

1. On February 3, 2017, the NRC issued Amendment No. 249 to the H. B. Robinson Renewed Facility Operating License. The amendment authorized the transition of the fire protection program to a risk-informed, performance-based program based on NFPA Standard 805. Section 3.1.4.5 of the NRC Safety Evaluation discussed NFPA 805 Section 3.3.4 similar insulation materials and concluded it was an acceptable alternative.
2. On September 26, 2013, Duke Energy submitted a license amendment request for the McGuire Nuclear Station Units 1 and 2, to transition the fire protection program to a risk-informed, performance-based program based on NFPA Standard 805. By letter dated September 29, 2016, Duke Energy submitted a response to a request for additional information for similar insulation material concerns and compliance with NFPA 805, Section 3.3.4, *Insulation Materials*. On December 6, 2016, the NRC issued Amendment Nos. 291 and 270 to the Renewed Facility Operating License McGuire Nuclear Station, Units 1 and 2, respectively, authorizing the transition of the fire protection program to a risk-informed, performance-based program based on NFPA Standard 805.

4.0 Environmental Consideration

A review has determined that the proposed amendments do not change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, *Standards for Protection Against Radiation*, and do not change an inspection or surveillance requirement. The proposed amendments do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significance increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendments meet the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Because the proposed amendments meet the eligibility criterion for categorical exclusion and do not involve a special circumstance, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendments.

Turbine Building (TB1)		
Fire Zone	Description	Drawing Reference
TB1-01C	Refrigerant piping for 1-VA-1A-AHU-TB has foam insulation on piping. HVAC units have not been in service for many years. Work order (WO) 20101461-01 completed removal of insulation that was not aluminum jacketed.	1-RP-1-2 1/8 and 1-RP-3-1 3/8 on Drawing F-40039
TB1-01D	Refrigerant piping for 1-VA-1A-AHU-TB has foam insulation on piping. HVAC units have not been in service for many years. WR 20040553 to remove insulation not aluminum jacketed.	1-RP-1-2 1/8 and 1-RP-3-1 3/8 on Drawing F-40039
TB1-01H	Refrigerant piping for 1-VA-1A-AHU-TB and 1-VA-1B-AHU-TB have foam insulation on piping. Some of the piping has aluminum jacketing on the insulation, preventing additional secondary combustible fire spread. HVAC units have not been in service for many years. WR 20040553 to remove insulation not aluminum jacketed.	1-RP-1-2 1/8, 1-RP-3-1 3/8, 1-RP-5-2 1/8, and 1-RP-7-1 3/8 on Drawing F-40039
TB1-01G	Refrigerant piping for 1-VA-1A-AHU-TB and 1-VA-1B-AHU-TB have foam insulation on piping. All piping in this zone is aluminum jacketed, preventing secondary combustible spread. HVAC units have not been in service for many years. WR 20040553 to remove insulation not aluminum jacketed.	1-RP-1-2 1/8, 1-RP-3-1 3/8, 1-RP-5-2 1/8, and 1-RP-7-1 3/8 on Drawing F-40039
TB2-01C	Refrigerant piping for 2-VA-2A-AHU-TB has foam insulation on piping. HVAC units have not been in service for many years. WR 20040558 to remove insulation.	2-RP-25-2 1/8 and 2-RP-19-1 3/8 on Drawing F-04039
TB2-01D	Refrigerant piping for 2-VA-2A-AHU-TB has foam insulation on piping. HVAC units have not been in service for many years. WR 20040558 to remove insulation.	2-RP-25-2 1/8 and 2-RP-19-1 3/8 on Drawing F-04039

TB2-01H	Refrigerant piping for 2-VA-2A-AHU-TB and 1-VA-1B-AHU-TB have foam insulation on piping. HVAC units have not been in service for many years. WR 20040558 to remove insulation.	2-RP-25-2 1/8, 2-RP-19-1 3/8, 2-RP-31-2 1/8, and 2-RP-27-1 3/8 on Drawing F-04039
TB2-01G	Refrigerant piping for 2-VA-2A-AHU-TB and 1-VA-1B-AHU-TB have foam insulation on piping. HVAC units have not been in service for many years. WR 20040558 to remove insulation.	2-RP-25-2 1/8, 2-RP-19-1 3/8, 2-RP-31-2 1/8, and 2-RP-27-1 3/8 on Drawing F-04039
TB1-01L	Turbine Building Chilled Water runs to the chilled water pumps in the Turbine Building (TB) Supply Fan Room. The piping is covered in insulation and some of the insulation is in the ZOI of the chilled water pumps. The majority of the piping is covered by aluminum jacketed fiberglass meeting the definition of limited combustible, but some sections do have polyisocyanurate. There is approximately 100 feet of piping covered with insulation in the room and the majority of the insulation includes an aluminum jacket adding additional defense in depth for fire spread. The Supply Fan Rooms have no PRA, SSD, or NPO targets in the room per Fire Safe Shutdown Program Management Database (FSSPMD), any additional targets have no impact to the Fire PRA or plant risk.	Evaporative Cooling Water (ECW) piping identified on drawing F-04123 has sections of polyisocyanurate insulation.

TB2-01L	Turbine Building Chilled Water runs to the chilled water pumps in the TB Supply Fan Room. The piping is covered in insulation and some of the insulation is in the ZOI of the chilled water pumps. The majority of the piping is covered by aluminum jacketed fiberglass meeting the definition of limited combustible, but some sections do have polyisocyanurate. There is approximately 100 feet of piping covered with insulation in the room and the majority of the insulation includes an aluminum jacket adding additional defense in depth for fire spread. The Supply Fan Rooms have no PRA, SSD, or NPO targets in the room per FSSPMD, any additional targets have no impact to the Fire PRA or plant risk.	ECW piping identified on drawing F-04123 has sections of polyisocyanurate insulation.
Rest of TB1	Field walk down of accessible areas identified no additional combustible insulation.	
Control Building		
CB-24	Foam Insulation is installed on condensate drain piping to HVAC cooling coils, located near the floor along the north side of the room. Approximately 65 feet of 1-inch to 2-inch piping covered with foam insulation. Transient 9540 has the potential of igniting one section of the foam insulation and adds two new targets. See Attachment A for the new target set data. The additional targets are not PRA, SSD, or NPO credited and add no additional risk to the Fire PRA.	The condensate drain piping can be located on Drawing F-04082.
CB-25	Foam insulation is installed on condenser refrigerant lines to the condenser units and could be hit by the condenser units themselves, but since the ignition sources and foam insulation is outdoors with no additional targets in the area, there is no additional Fire PRA risk associated with the insulation.	The condenser units and refrigerant lines can be located on Drawing F-04330, sht. 1.

Rest of Control Building	No combustible insulation was identified in the remainder of CB-23E, CB-7, CB-8, CB-9, CB-10, CB-01, CB-02, CB-12 and CB-13.	N/A
Unit 1 Reactor Building		
RB1-01J	Polyisocyanurate/Foam Insulation is installed on Chilled Water Piping to cooling coils (1-VA-CLR-5095) in the Reactor Building Supply Fan Room. The Chilled Water Piping runs from outside the building through the air louvers on the perimeter of the building, to the cooling coils, south of the abandoned evaporative cooler (1-VA-1A-EC-RB). There are no ignition sources in the area of the chilled water piping and no added risk to the Fire PRA.	Drawing F-40072 identifies the layout of fire zone RB1-01J with the abandoned evaporative cooler and louver opening on the perimeter of the building, with all ignition sources located north of the evaporative cooler.
Rest of RB1-1	No combustible insulation was identified in any other accessible areas of the Unit 1 Reactor Building.	N/A
Unit 2 Reactor Building		
RB2-01J	Polyisocyanurate/Foam Insulation is installed on Chilled Water Piping to cooling coils (2-VA-CLR-5095) in the Reactor Building Supply Fan Room. The Chilled Water Piping runs from outside the building through the air louvers on the perimeter of the building, to the cooling coils, south of the abandoned evaporative cooler (2-VA-2A-EC-RB). There are no ignition sources in the area of the chilled water piping and no added risk to the Fire PRA.	Drawing F-04072 identifies the layout of fire zone RB2-01J with the abandoned evaporative cooler and louver opening on the perimeter of the building, with all ignition sources located north of the evaporative cooler.
Rest of RB2-1	No combustible insulation was identified in any other accessible areas of the Unit 2 Reactor Building.	N/A
Radwaste Building		
RW-01A	No combustible insulation identified on the -3 foot Elevation.	N/A

RW-01B	No combustible insulation identified on the 23 foot Elevation. Polyisocyanurate was identified on piping outside the Radwaste Building on the loading dock associated with the Drywell HVAC Cooling Pump, but switched to fiberglass within the building. There is no impact to plant equipment with the polyisocyanurate outside the building.	N/A
RW-01C	35 foot Elevation: Foam insulation with an aluminum jacket is installed inside the fan room on chilled water piping connected to the cooling coils and exits the building through the fan room. No ignition sources in the supply fan room. Closest ignition sources are located on the roof of the supply fan room, not affecting the foam insulation. No additional risk to the Fire PRA.	Location of cooling coils are identified on drawing F-04077.
RW-01D	No combustible insulation identified on the 47 foot Elevation.	N/A
Augmented Off-Gas Building		
AOG-1	Foam insulation was found wrapped around Air Handling Units (AHUs) on the 37 foot platform. The foam insulation is below the motor ignition source but was considered as a secondary combustible to be conservative. Additional targets were added to the fire scenarios for the AHUs. The additional targets are not PRA, SSD, or NPO credited and add no additional risk to the Fire PRA.	Drawing F-02319 identifies the location of the AHUs on the 37 foot elevation of the AOG Building.
Diesel Generator Building – No combustible Insulation		
Service Water Building – No combustible Insulation		
Make-up Water Treatment Building – No Combustible Insulation		
RPDC-1 - No combustible Insulation		
RPDC-2 - No combustible Insulation		

Marked-up Renewed Facility Operating License Pages – Unit 1

- (2) Pursuant to the Act and 10 CFR Part 70, to receive, possess, and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;
- (3) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (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 and 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 and 70 to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of Brunswick Steam Electric Plant, Unit Nos. 1 and 2, and H. B. Robinson Steam Electric Plant, Unit No. 2.
- (6) Fire Protection

REPLACE WITH
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~~Duke Energy Progress, LLC shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the license amendment request dated September 25, 2012, as supplemented by letters dated December 17, 2012; June 28, 2013; July 15, 2013; July 31, 2013; August 29, 2013; September 30, 2013; February 28, 2014; March 14, 2014; April 10, 2014; June 26, 2014; August 15, 2014; August 29, 2014; November 20, 2014; and December 18, 2014; and as approved in the safety evaluation dated January 28, 2015. 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.~~

- (a) Risk-Informed Changes that May Be Made Without Prior NRC Approval

A risk assessment of the change must demonstrate that the acceptance criteria below are met. The risk

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(6) Fire Protection

Duke Energy Progress, LLC shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the license amendment requests dated September 25, 2012, as supplemented by letters dated December 17, 2012; June 28, 2013; July 15, 2013; July 31, 2013; August 29, 2013; September 30, 2013; February 28, 2014; March 14, 2014; April 10, 2014; June 26, 2014; August 15, 2014; August 29, 2014; November 20, 2014; and December 18, 2014; ~~and~~ as approved in the safety evaluation dated January 28, 2015; and _____, 2017, as approved in the safety evaluation dated _____, 2018. 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.

assessment approach, methods, and data shall be acceptable to the NRC and shall be appropriate for the nature and scope of the change being evaluated; be based on the as built, as operated, and maintained plant; and reflect the operating experience at Brunswick. Acceptable methods to assess the risk of the change may include methods that have been used in the peer-reviewed fire PRA model, methods that have been approved by NRC through a plant-specific license amendment or NRC approval of generic methods specifically for use in NFPA 805 risk assessments, or methods that have been demonstrated to bound the risk impact.

1. Prior NRC review and approval is not required for changes that clearly result in a decrease in risk. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.
2. Prior NRC review and approval is not required for individual changes that result in a risk increase less than 1×10^{-7} /year (yr) for CDF and less than 1×10^{-8} /yr for LERF. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

(b) Other Changes that May Be Made Without Prior NRC Approval

1. Changes to NFPA 805, Chapter 3, Fundamental Fire Protection Program

Prior NRC review and approval is not required for changes to the NFPA 805, Chapter 3, fundamental fire protection program elements and design requirements for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is functionally equivalent or adequate for the hazard. The licensee may use an engineering evaluation to demonstrate that a change to an NFPA 805, Chapter 3, element is functionally equivalent to the corresponding technical requirement. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the

component, system, procedure, or physical arrangement, using a relevant technical requirement or standard.

The licensee may use an engineering evaluation to demonstrate that changes to certain NFPA 805, Chapter 3, elements are acceptable because the alternative is "adequate for the hazard." Prior NRC review and approval would not be required for alternatives to four specific sections of NFPA 805, Chapter 3, for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is adequate for the hazard. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard. The four specific sections of NFPA 805, Chapter 3, are as follows:

- "Fire Alarm and Detection Systems" (Section 3.8);
- "Automatic and Manual Water-Based Fire Suppression Systems" (Section 3.9);
- "Gaseous Fire Suppression Systems" (Section 3.10); and
- "Passive Fire Protection Features" (Section 3.11).

This License Condition does not apply to any demonstration of equivalency under Section 1.7 of NFPA 805.

2. Fire Protection Program Changes that Have No More than Minimal Risk Impact

and _____, 2018,

evaluations

Prior NRC review and approval is not required for changes to the licensee's fire protection program that have been demonstrated to have no more than a minimal risk impact. The licensee may use its screening process as approved in the NRC safety evaluation dated January 28, 2015, to determine that certain fire protection program changes meet the minimal criterion. The licensee shall ensure that fire protection defense-in-depth and safety margins are maintained when changes are made to the fire protection program.

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(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

Marked-up Renewed Facility Operating License Pages – Unit 2

- (3) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (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, and special nuclear materials 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 and 70 to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of Brunswick Steam Electric Plant, Unit Nos. 1 and 2, and H. B. Robinson Steam Electric Plant, Unit No. 2.

REPLACE WITH
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- (6) Fire Protection

~~Duke Energy Progress, LLC shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the license amendment request dated September 25, 2012, as supplemented by letters dated December 17, 2012; June 28, 2013; July 15, 2013; July 31, 2013; August 29, 2013; September 30, 2013; February 28, 2014; March 14, 2014; April 10, 2014; June 26, 2014; August 15, 2014; August 29, 2014; November 20, 2014; and December 18, 2014; and as approved in the safety evaluation dated January 28, 2015. 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.~~

- (a) Risk-Informed Changes that May Be Made Without Prior NRC Approval

A risk assessment of the change must demonstrate that the acceptance criteria below are met. The risk

(6) Fire Protection

Duke Energy Progress, LLC shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the license amendment requests dated September 25, 2012, as supplemented by letters dated December 17, 2012; June 28, 2013; July 15, 2013; July 31, 2013; August 29, 2013; September 30, 2013; February 28, 2014; March 14, 2014; April 10, 2014; June 26, 2014; August 15, 2014; August 29, 2014; November 20, 2014; and December 18, 2014; ~~and~~ as approved in the safety evaluation dated January 28, 2015; and _____, 2017, as approved in the safety evaluation dated _____, 2018. 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.

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assessment approach, methods, and data shall be acceptable to the NRC and shall be appropriate for the nature and scope of the change being evaluated; be based on the as built, as operated, and maintained plant; and reflect the operating experience at Brunswick. Acceptable methods to assess the risk of the change may include methods that have been used in the peer-reviewed fire PRA model, methods that have been approved by NRC through a plant-specific license amendment or NRC approval of generic methods specifically for use in NFPA 805 risk assessments, or methods that have been demonstrated to bound the risk impact.

1. Prior NRC review and approval is not required for changes that clearly result in a decrease in risk. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.
2. Prior NRC review and approval is not required for individual changes that result in a risk increase less than 1×10^{-7} /year (yr) for CDF and less than 1×10^{-8} /yr for LERF. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

(b) Other Changes that May Be Made Without Prior NRC Approval

1. Changes to NFPA 805, Chapter 3, Fundamental Fire Protection Program

Prior NRC review and approval is not required for changes to the NFPA 805, Chapter 3, fundamental fire protection program elements and design requirements for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is functionally equivalent or adequate for the hazard. The licensee may use an engineering evaluation to demonstrate that a change to an NFPA 805, Chapter 3, element is functionally equivalent to the corresponding technical requirement. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the

component, system, procedure, or physical arrangement, using a relevant technical requirement or standard.

The licensee may use an engineering evaluation to demonstrate that changes to certain NFPA 805, Chapter 3, elements are acceptable because the alternative is "adequate for the hazard." Prior NRC review and approval would not be required for alternatives to four specific sections of NFPA 805, Chapter 3, for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is adequate for the hazard. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard. The four specific sections of NFPA 805, Chapter 3, are as follows:

- "Fire Alarm and Detection Systems" (Section 3.8);
- "Automatic and Manual Water-Based Fire Suppression Systems" (Section 3.9);
- "Gaseous Fire Suppression Systems" (Section 3.10); and
- "Passive Fire Protection Features" (Section 3.11).

This License Condition does not apply to any demonstration of equivalency under Section 1.7 of NFPA 805.

2. Fire Protection Program Changes that Have No More than Minimal Risk Impact and _____, 2018,

evaluations

Prior NRC review and approval is not required for changes to the licensee's fire protection program that have been demonstrated to have no more than a minimal risk impact. The licensee may use its screening process as approved in the NRC safety ~~evaluation~~ dated January 28, 2015, to determine that certain fire protection program changes meet the minimal criterion. The licensee shall ensure that fire protection defense-in-depth and safety margins are maintained when changes are made to the fire protection program.

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(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,

Renewed License No. DPR-62
Amendment No. 309

Revised Renewed Facility Operating License Pages – Unit 1

- (2) Pursuant to the Act and 10 CFR Part 70, to receive, possess, and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;
- (3) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (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 and 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 and 70 to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of Brunswick Steam Electric Plant, Unit Nos. 1 and 2, and H. B. Robinson Steam Electric Plant, Unit No. 2.
- (6) Fire Protection

Duke Energy Progress, LLC shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the license amendment requests dated September 25, 2012, as supplemented by letters dated December 17, 2012; June 28, 2013; July 15, 2013; July 31, 2013; August 29, 2013; September 30, 2013; February 28, 2014; March 14, 2014; April 10, 2014; June 26, 2014; August 15, 2014; August 29, 2014; November 20, 2014; and December 18, 2014; as approved in the safety evaluation dated January 28, 2015; and [[INSERT DATE]], 2017, as approved in the safety evaluation dated [[INSERT DATE]], 2018. 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.

(a) Risk-Informed Changes that May Be Made Without Prior NRC Approval

A risk assessment of the change must demonstrate that the acceptance criteria below are met. The risk assessment approach, methods, and data shall be acceptable to the NRC and shall be appropriate for the nature and scope of the change being evaluated; be based on the as built, as operated, and maintained plant; and reflect the operating experience at Brunswick. Acceptable methods to assess the risk of the change may include methods that have been used in the peer-reviewed fire PRA model, methods that have been approved by NRC through a plant-specific license amendment or NRC approval of generic methods specifically for use in NFPA 805 risk assessments, or methods that have been demonstrated to bound the risk impact.

1. Prior NRC review and approval is not required for changes that clearly result in a decrease in risk. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.
2. Prior NRC review and approval is not required for individual changes that result in a risk increase less than 1×10^{-7} /year (yr) for CDF and less than 1×10^{-8} /yr for LERF. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

(b) Other Changes that May Be Made Without Prior NRC Approval

1. Changes to NFPA 805, Chapter 3, Fundamental Fire Protection Program

Prior NRC review and approval is not required for changes to the NFPA 805, Chapter 3, fundamental fire protection program elements and design requirements for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is functionally equivalent or adequate for the hazard. The licensee may use an engineering evaluation to demonstrate that a change to an NFPA 805, Chapter 3, element is functionally equivalent to the corresponding technical requirement. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard.

The licensee may use an engineering evaluation to demonstrate that changes to certain NFPA 805, Chapter 3, elements are acceptable because the alternative is "adequate for the hazard." Prior NRC review and approval would not be required for alternatives to four specific sections of NFPA 805, Chapter 3, for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is adequate for the hazard. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard. The four specific sections of NFPA 805, Chapter 3, are as follows:

- "Fire Alarm and Detection Systems" (Section 3.8);
- "Automatic and Manual Water-Based Fire Suppression Systems" (Section 3.9);
- "Gaseous Fire Suppression Systems" (Section 3.10); and
- "Passive Fire Protection Features" (Section 3.11).

This License Condition does not apply to any demonstration of equivalency under Section 1.7 of NFPA 805.

2. Fire Protection Program Changes that Have No More than Minimal Risk Impact

Prior NRC review and approval is not required for changes to the licensee's fire protection program that have been demonstrated to have no more than a minimal risk impact. The licensee may use its screening process as approved in the NRC safety evaluations dated January 28, 2015, and [[INSERT DATE]], 2018, to determine that certain fire protection program changes meet the minimal criterion. The licensee shall ensure that fire protection defense-in-depth and safety margins are maintained when changes are made to the fire protection program.

(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. [[]], 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 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 203.

- (a) Effective June 30, 1982, the surveillance requirements listed below need not be completed until July 15, 1982. Upon accomplishment of the surveillances, the provisions of Technical Specification 4.0.2 shall apply.

Specification 4.3.3.1, Table 4.3.3-1, Items 5.a and 5.b

- (b) Effective July 1, 1982, through July 8, 1982, Action statement "a" of Technical Specification 3.8.1.1 shall read as follows:

ACTION:

- a. With either one offsite circuit or one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirements 4.8.1.1.1.a and 4.8.1.1.2.a.4 within two hours and at least once per 12 hours thereafter; restore at least two offsite circuits and four diesel generators to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

- (3) Deleted by Amendment No. 206.

- D. The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans, including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain Safeguards Information protected under 10 CFR 73.21 are entitled: "Physical Security Plan, Revision 2," and "Safeguards Contingency Plan, Revision 2," submitted by letter dated May 17, 2006, and "Guard Training and Qualification Plan, Revision 0," submitted by letter dated September 30, 2004.

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The licensee's CSP was approved by License Amendment No. 258, as supplemented by changes approved by License Amendment Nos. 261 and 265.

- E. This license is subject to the following additional conditions for the protection of the environment:
- a. Deleted per Amendment 54, 3-11-83
 - b. Deleted per Amendment 54, 3-11-83
 - c. The licensee shall comply with the effluent limitations contained in National Pollutant Discharge Elimination System Permit No. NC0007064 issued pursuant to Section 402 of the Federal Water Pollution Control Act, as amended.
- F. In accordance with the requirement imposed by the October 8, 1976, order of the United States Court of Appeals for the District of Columbia Circuit in Natural Resources Defense Council v. Nuclear Regulatory Commission, No. 74-1385 and 74-1586, that the Nuclear Regulatory Commission "shall make any licenses granted between July 21, 1976 and such time when the mandate is issued subject to the outcome of the proceedings herein," the license issued herein shall be subject to the outcome of such proceedings.
- G. Deleted by Amendment No. 206.
- H. This license is effective as of the date of issuance and shall expire at midnight on September 8, 2036.
- I. Deleted per Amendment No. 70 dated 5-25-84.
- J. Deleted per Amendment No. 70 dated 5-25-84.
- K. Deleted by Amendment No. 206.
- L. Power Uprate License Amendment Implementation
- The licensee shall complete the following actions as a condition of the approval of the power uprate license amendment (Amendment No. 183):
- (1) Deleted by Amendment No. 206.
 - (2) Deleted by Amendment No. 206.

(3) Fuel Pool Decay Heat Evaluation

The decay heat loads and the decay heat removal systems available for each refueling outage shall be evaluated, and bounding or outage specific analyses shall be used for various refueling sequences. Where a bounding engineering evaluation is in place, a refueling specific assessment shall be made to ensure that the bounding case encompasses the specific refueling sequence. In both cases (i.e., bounding or outage specific evaluations), compliance with design basis assumptions shall be verified.

(4) Deleted by Amendment No. 206.

(5) Deleted by Amendment No. 206.

- M. The UFSAR supplement, as revised, submitted pursuant to 10 CFR 54.21(d), shall be included in the next scheduled update to the UFSAR required by 10 CFR 50.71(e)(4) following the issuance of this renewed operating license. Until that update is complete, CP&L* may make changes to the programs and activities described in the supplement without prior Commission approval, provided that CP&L* evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.
- N. The UFSAR supplement, as revised, describes certain future activities to be completed prior to the period of extended operation. Duke Energy Progress, LLC shall complete these activities no later than September 8, 2016, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.
- O. All capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of the most recent NRC-approved version of the Boiling Water Reactor Vessels and Internals Project (BWRVIP) Integrated Surveillance Program (ISP) appropriate for the configuration of the specimens in the capsule. Any changes to the BWRVIP ISP capsule withdrawal schedule, including spare capsules, must be approved by the NRC prior to implementation. All capsules placed in storage must be maintained for future insertion. Any changes to storage requirements must be approved by the NRC, as required by 10 CFR Part 50, Appendix H.

* On April 29, 2013, the name "Carolina Power & Light Company" (CP&L) was changed to "Duke Energy Progress, Inc." On August 1, 2015, the name "Duke Energy Progress, Inc." was changed to "Duke Energy Progress, LLC."

P. Mitigation Strategy License Condition

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

- (1) Fire fighting response strategy with the following elements:
 1. Pre-defined coordinated fire response strategy and guidance
 2. Assessment of mutual aid fire fighting assets
 3. Designated staging areas for equipment and materials
 4. Command and control
 5. Training of response personnel
- (2) Operations to mitigate fuel damage considering the following:
 1. Protection and use of personnel assets
 2. Communications
 3. Minimizing fire spread
 4. Procedures for implementing integrated fire response strategy
 5. Identification of readily-available pre-staged equipment
 6. Training on integrated fire response strategy
 7. Spent fuel pool mitigation measures
- (3) Actions to minimize release to include consideration of:
 1. Water spray scrubbing
 2. Dose to onsite responders

Q. The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.

3. Additional Conditions

The Additional Conditions contained in Appendix B, as revised through Amendment No. 269, are hereby incorporated into this license. Duke Energy Progress, LLC shall operate the facility in accordance with the Additional Conditions.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

J. E. Dyer, Director
Office of Nuclear Reactor Regulation

Attachments:

1. Unit 1 – Technical Specifications – Appendices A and B

Date of Issuance: June 26, 2006

Renewed License No. DPR-71
Amendment No. |

Revised Renewed Facility Operating License Pages – Unit 2

- (3) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (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, and special nuclear materials 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 and 70 to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of Brunswick Steam Electric Plant, Unit Nos. 1 and 2, and H. B. Robinson Steam Electric Plant, Unit No. 2.
- (6) Fire Protection

Duke Energy Progress, LLC shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the license amendment requests dated September 25, 2012, as supplemented by letters dated December 17, 2012; June 28, 2013; July 15, 2013; July 31, 2013; August 29, 2013; September 30, 2013; February 28, 2014; March 14, 2014; April 10, 2014; June 26, 2014; August 15, 2014; August 29, 2014; November 20, 2014; and December 18, 2014; as approved in the safety evaluation dated January 28, 2015; and [[INSERT DATE]], 2017, as approved in the safety evaluation dated [[INSERT DATE]], 2018. 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.

(a) Risk-Informed Changes that May Be Made Without Prior NRC Approval

A risk assessment of the change must demonstrate that the acceptance criteria below are met. The risk assessment approach, methods, and data shall be acceptable to the NRC and shall be appropriate for the nature and scope of the change being evaluated; be based on the as built, as operated, and maintained plant; and reflect the operating experience at Brunswick. Acceptable methods to assess the risk of the change may include methods that have been used in the peer-reviewed fire PRA model, methods that have been approved by NRC through a plant-specific license amendment or NRC approval of generic methods specifically for use in NFPA 805 risk assessments, or methods that have been demonstrated to bound the risk impact.

1. Prior NRC review and approval is not required for changes that clearly result in a decrease in risk. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.
2. Prior NRC review and approval is not required for individual changes that result in a risk increase less than 1×10^{-7} /year (yr) for CDF and less than 1×10^{-8} /yr for LERF. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

(b) Other Changes that May Be Made Without Prior NRC Approval

1. Changes to NFPA 805, Chapter 3, Fundamental Fire Protection Program

Prior NRC review and approval is not required for changes to the NFPA 805, Chapter 3, fundamental fire protection program elements and design requirements for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is functionally equivalent or adequate for the hazard. The licensee may use an engineering evaluation to demonstrate that a change to an NFPA 805, Chapter 3, element is functionally equivalent to the corresponding technical requirement. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard.

The licensee may use an engineering evaluation to demonstrate that changes to certain NFPA 805, Chapter 3, elements are acceptable because the alternative is "adequate for the hazard." Prior NRC review and approval would not be required for alternatives to four specific sections of NFPA 805, Chapter 3, for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is adequate for the hazard. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard. The four specific sections of NFPA 805, Chapter 3, are as follows:

- "Fire Alarm and Detection Systems" (Section 3.8);
- "Automatic and Manual Water-Based Fire Suppression Systems" (Section 3.9);
- "Gaseous Fire Suppression Systems" (Section 3.10); and
- "Passive Fire Protection Features" (Section 3.11).

This License Condition does not apply to any demonstration of equivalency under Section 1.7 of NFPA 805.

2. Fire Protection Program Changes that Have No More than Minimal Risk Impact

Prior NRC review and approval is not required for changes to the licensee's fire protection program that have been demonstrated to have no more than a minimal risk impact. The licensee may use its screening process as approved in the NRC safety evaluations dated January 28, 2015, and [[INSERT DATE]], 2018, to determine that certain fire protection program changes meet the minimal criterion. The licensee shall ensure that fire protection defense-in-depth and safety margins are maintained when changes are made to the fire protection program.

(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. [[]], 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, 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 233.

- (a) The end of the current surveillance period for the surveillance requirements listed below may be extended beyond the time limit specified by Technical Specification 4.0.2a. After May 1, 1982, the plant shall not be operated in Conditions 1, 2, or 3 until the surveillance requirements listed below have been completed. Upon accomplishment of the surveillances, the provisions of Technical Specification 4.0.2a shall apply.

Specification 4.3.1.1; Table 4.3.1-1, items 9 & 10
4.3.1.2
4.3.1.3; Table 3.3.1-2, item 10
4.3.2.1; Table 4.3.2-1, items 1.d & 1.f
4.3.2.3; Table 3.3.2-3, item 1.a.1
4.3.3.2; Table 4.3.3-1, items 4.c & 4.f
4.5.2.a
4.8.1.1.2.d.2
4.8.1.1.2.d.3
4.8.1.1.2.d.6
4.8.1.1.2.d.7

- (b) Effective June 30, 1982, the surveillance requirements listed below need not be completed until restart for Cycle 5 or July 15, 1982, whichever occurs first. The unit shall not be operated in Conditions 1, 2 or 3 until the surveillance requirements listed below have been completed. Upon accomplishment of the surveillances, the provisions of Technical Specification 4.0.2 shall apply.

Specification 4.3.3.1 Table 4.3.3-1, Items 5.a and 5.b.

- (c) Effective July 1, 1982, through July 8, 1982, Action statement "a" of Technical Specification 3.8.1.1 shall read as follows:

ACTION:

- a. With either one offsite circuit or one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirements 4.8.1.1.1.a and 4.8.1.1.2.a.4 within two hours and at least once per 12 hours thereafter; restore at least two offsite circuits and four diesel generators to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

- (3) Deleted by Amendment No. 236.

- (4) Equalizer Valve Restriction

The valves in the equalizer piping between the recirculation loops shall be closed at all times during reactor operation, except for one bypass valve which is left open to prevent pressure build-up due to ambient and conduction heating of the water between the equalizer valves.

- (5) Deleted by Amendment No. 233.

- (6) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans, including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Physical Security Plan, Revision 2," and "Safeguards Contingency Plan, Revision 2," submitted by letter dated May 17, 2006, and "Guard Training and Qualification Plan, Revision 0," submitted by letter dated September 30, 2004.

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The licensee's CSP was approved by License Amendment No. 286, as supplemented by changes approved by License Amendment Nos. 289 and 293.

- D. This license is subject to the following additional conditions for the protection of the environment:
- a. Deleted per Amendment 79, 3-11-83
 - b. Deleted per Amendment 79, 3-11-83
 - c. Deleted per Amendment 79, 3-11-83
 - d. The licensee shall comply with the effluent limitations contained in National Pollutant Discharge Elimination System Permit No. NC0007064 issued pursuant to Section 402 of the Federal Water Pollution Control Act, as amended.
- E. This license is effective as of the date of issuance and shall expire at midnight on December 27, 2034.
- F. Deleted per Amendment No. 98 dated 5-25-84.
- G. Deleted per Amendment No. 98 dated 5-25-84.
- H. Deleted by Amendment No. 236.
- I. Power Uprate License Amendment Implementation
- The licensee shall complete the following actions as a condition of the approval of the power uprate license amendment (Amendment No. 214):
- (1) Deleted by Amendment No. 236.
 - (2) Deleted by Amendment No. 236.
 - (3) Fuel Pool Decay Heat Evaluation

The decay heat loads and the decay heat removal systems available for each refueling outage shall be evaluated, and bounding or outage specific analyses shall be used for various refueling sequences. Where a bounding engineering evaluation is in place, a refueling specific assessment shall be made to ensure that the bounding case encompasses the specific refueling sequence. In both cases (i.e., bounding or outage specific evaluations), compliance with design basis assumptions shall be verified.
 - (4) Deleted by Amendment No. 236.
 - (5) Deleted by Amendment No. 236.

- J. The UFSAR supplement, as revised, submitted pursuant to 10 CFR 54.21(d), shall be included in the next scheduled update to the UFSAR required by 10 CFR 50.71(e)(4) following the issuance of this renewed operating license. Until that update is complete, CP&L* may make changes to the programs and activities described in the supplement without prior Commission approval, provided that CP&L* evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.
- K. The UFSAR supplement, as revised, describes certain future activities to be completed prior to the period of extended operation. Duke Energy Progress, LLC shall complete these activities no later than December 27, 2014, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.
- L. All capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of the most recent NRC-approved version of the Boiling Water Reactor Vessels and Internals Project (BWRVIP) Integrated Surveillance Program (ISP) appropriate for the configuration of the specimens in the capsule. Any changes to the BWRVIP ISP capsule withdrawal schedule, including spare capsules, must be approved by the NRC prior to implementation. All capsules placed in storage must be maintained for future insertion. Any changes to storage requirements must be approved by the NRC, as required by 10 CFR Part 50, Appendix H.
- M. Mitigation Strategy License Condition
- Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:
- (1) Fire fighting response strategy with the following elements:
1. Pre-defined coordinated fire response strategy and guidance
 2. Assessment of mutual aid fire fighting assets
 3. Designated staging areas for equipment and materials
 4. Command and control
 5. Training of response personnel

* On April 29, 2013, the name "Carolina Power & Light Company" (CP&L) was changed to "Duke Energy Progress, Inc."

On August 1, 2015, the name "Duke Energy Progress, Inc." was changed to "Duke Energy Progress, LLC."

- (2) Operations to mitigate fuel damage considering the following:
 - 1. Protection and use of personnel assets
 - 2. Communications
 - 3. Minimizing fire spread
 - 4. Procedures for implementing integrated fire response strategy
 - 5. Identification of readily-available pre-staged equipment
 - 6. Training on integrated fire response strategy
 - 7. Spent fuel pool mitigation measures
- (3) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

N. The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.

3. Additional Conditions

The Additional Conditions contained in Appendix B, as revised through Amendment No. 297, are hereby incorporated into this license. Duke Energy Progress, LLC shall operate the facility in accordance with the Additional Conditions.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

J. E. Dyer, Director
Office of Nuclear Reactor Regulation

Attachments:

- 1. Unit 2 – Technical Specifications – Appendices A and B

Date of Issuance: June 26, 2006

Update to Calculation OFP-1213,
Code Compliance Evaluation NFPA 805,
Performance-Based Standard for Fire Protection for
Light-Water Reactor Electric Generating Plants – 2001 Edition

Attachment 3 – NEI 04-02 Table B-1 NFPA 805 Ch. 3 Transition Details

CPL-XXXX-W-005, Nuclear Power Plant Protective Coatings, Appendix A	Appendix A
UFSAR, Updated Final Safety Analysis Report Applicable FSA's for the applicable Fire Areas	Section 9.5.1 All
EER 94-0009, Evaluation of Floor Coatings on Combustible Loading	All
AMERCOAT, Amerlock 400 Series Data Sheet Qualifications	Qualification Section
ESR 99-00109, Control Room Carpet Additions	All
EC 47763, Control Room Project	All

Table B-1 NFPA 805 Ch.3 Transition Details

Chapter 3 Reference: 3.3.4 Insulation Materials

Chapter 3 Requirement: 3.3.4 Insulation Materials.
Thermal insulation materials, radiation shielding materials, ventilation duct materials, and soundproofing materials shall be noncombustible or limited combustible.

Compliance Statement

Complies per additional
NRC Approval

Compliance Basis

In several areas at BSEP, exposed thermal insulation materials are installed on various heating, ventilation and air conditioning (HVAC) system piping to prevent sweating. Although these materials comply with the flame spreading rating of 25 or less, these materials do not meet the definition of a limited combustible due to the heat value exceeding 3,500 BTU/lb. These materials will not contribute appreciably to the spread of fire nor represent a secondary combustible beyond those currently analyzed in the Fire Probabilistic Risk Assessment due to the limited applications. Future installations would be controlled by the current design engineering change process including fire protection engineering review and fire protection impact change process.