DUKE ENERGY®

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August 29, 2014

Serial: BSEP 14-0100

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
Response to Request for Additional Information Regarding Voluntary Risk Initiative National Fire Protection Association Standard 805 (NRC TAC Nos. ME9623 and ME9624)

References:

1. Letter from Michael J. Annacone (Carolina Power & Light Company) to U.S. Nuclear Regulatory Commission (Serial: BSEP 12-0106), *License Amendment Request to Adopt NFPA 805 Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants (2001 Edition)*, dated September 25, 2012, ADAMS Accession Number ML12285A428

2. Letter from Michael J. Annacone (Carolina Power & Light Company) to U.S. Nuclear Regulatory Commission (Serial: BSEP 12-0140), *Additional Information Supporting License Amendment Request to Adopt NFPA 805 Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants (2001 Edition)*, dated December 17, 2012, ADAMS Accession Number ML12362A284

3. Letter from Christopher Gratton (USNRC) to Michael J. Annacone (Carolina Power & Light Company), *Brunswick Steam Electric Plant, Units 1 and 2 - Request for Additional Information Regarding Voluntary Risk Initiative National Fire Protection Association Standard 805 (NRC TAC Nos. ME9623 and ME9624)*, dated May 15, 2013, ADAMS Accession Number ML13123A231

4. Letter from George T. Hamrick (Duke Energy Progress, Inc.) to U.S. Nuclear Regulatory Commission (Serial: BSEP 13-0107), *Response to Request for Additional Information Regarding Voluntary Risk Initiative National Fire Protection Association Standard (NFPA) 805 (NRC TAC Nos. ME9623 and ME9624)*, dated September 30, 2013, ADAMS Accession Number ML13277A040

A006
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5. Electronic Mail from Andrew Hon (USNRC) to William R. Murray (Duke Energy Progress, Inc.), *Brunswick Steam Electric Plant, Units 1 and 2 – Request for Additional Information Regarding Voluntary Risk Initiative National Fire Protection Association Standard 805 (TAC Nos. ME9623 and ME9624)*, dated August 8, 2014, ADAMS Accession Number ML14220A213

Ladies and Gentlemen:

By letter dated September 25, 2012 (i.e., Reference 1), as supplemented by letter dated December 17, 2012 (i.e., Reference 2), Duke Energy Progress, Inc., submitted a license amendment request (LAR) to adopt a new, risk-informed, performance-based (RI-PB) fire protection licensing basis for the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2.

On May 15, 2013 (i.e., Reference 3), the NRC provided a request for additional information (RAI) regarding the radiation releases. By letter dated September 30, 2013 (i.e., Reference 4); Duke Energy responded to the RAI. Subsequently, on August 8, 2014 (i.e., Reference 5), the NRC provided an electronic, follow-up RAI regarding the information provided in Reference 4. The response to the follow-up RAI is provided in the Enclosure of this letter.

This document contains no new regulatory commitments.

Please refer any questions regarding this submittal to Mr. Lee Grzeck, Manager – Regulatory Affairs, at (910) 457-2487.

I declare, under penalty of perjury, that the foregoing is true and correct. Executed on August 29, 2014.

Sincerely,

George T. Hamrick

George T. Hamrick

GTH/mkb

Enclosure: Response to Request for Additional Information Regarding Voluntary Risk Initiative National Fire Protection Association Standard 805

cc (with enclosure):

U. S. Nuclear Regulatory Commission, Region II
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U. S. Nuclear Regulatory Commission
ATTN: Mr. Andrew Hon (Mail Stop OWFN 8G9A) **(Electronic Copy Only)**
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U. S. Nuclear Regulatory Commission
ATTN: Ms. Michelle P. Catts, NRC Senior Resident Inspector
8470 River Road
Southport, NC 28461-8869

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P.O. Box 29510
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Mr. W. Lee Cox, III, Section Chief **(Electronic Copy Only)**
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Response to Request for Additional Information Regarding Voluntary Risk Initiative National Fire Protection Association Standard 805

By letter dated September 25, 2012, as supplemented by letter dated December 17, 2012, Duke Energy Progress, Inc., submitted a license amendment request (LAR) to adopt a new, risk-informed, performance-based (RI-PB) fire protection licensing basis for the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2.

On May 15, 2013, the NRC provided a request for additional information (RAI) regarding the radiation releases. By letter dated September 30, 2013, Duke Energy responded to the RAI. Subsequently, on August 8, 2014, the NRC provided an electronic, follow-up RAI regarding the information provided in the September 30, 2013 letter.

Duke Energy's response to the RAI is provided below.

Radiation Release RAI 02.01

For the outside areas listed in Attachment E where radioactive materials may be stored, please provide the following information:

a. Identify the type of container used (e.g., sea land type containers) to store the radioactive material.
b. Describe the administrative controls that limit the amount of activity which may be present in these containers.
c. Provide a bounding calculation that demonstrates that the radioactive releases from a fire in a container stored in outside areas will not exceed the applicable 10 CFR Part 20 limits. The analysis should include the assumptions, a summary of the methodology and calculations, and resulting doses.
d. Provide any administrative controls that will be used to control the release of liquids which may become contaminated from fire-fighting activities.

Response

a. As described in site procedure 0E&RC-0293, *Management of Radioactive Material & Radwaste Containers at BNP*, the following types of storage/waste containers can be used to store radioactive materials.

    - 125 to 275 gallon poly totes for liquids (or similar for bulk liquids)
    - 90 cubic foot lift liners (i.e., soft sided containers)
    - 55 gallon steel drum – approximately 7 cubic foot capacity or 50 gallons
    - B-12 Steel Box – approximately 40 cubic foot capacity, approximately 72 inches long, 24 inches high, and 48 inches wide
    - B-25 Steel Box – approximately 90 cubic foot capacity, approximately 72 inches long, 48 inches high, and 48 inches wide
    - Steel Cargo Van – Standard 20 foot general purpose cargo vans, approximately 20 feet or 40 feet long, 8 feet high, 8 feet wide

b. Storage of radioactive material and equipment containers in outside areas (i.e., material NOT stored in a building) at BSEP is controlled by site procedure 0E&RC-0293, *Management of Radioactive Material & Radwaste Containers at BNP*. The procedure

provides for an administrative limit of less than or equal to 80 millirem/hour at 30 centimeters, which was considered when providing the bounding calculation described in section 'c' below.

c. Calculation BNP-RAD-027, *Evaluation of Dose Consequence from a Fire in a Radwaste Container Stored in an Outside Area*, is a bounding calculation that demonstrates that the radioactive releases from a fire in a container stored in outside areas will not exceed the applicable 10 CFR Part 20 limits. This analysis has determined that a fire in a container stored at the Container Van Storage Area, which contains the maximum quantity of procedurally allowed radioactivity, will result in a dose at the site boundary of 0.26 millirem in one hour. Calculation BNP-RAD-027 includes the assumptions, a summary of the methodology and calculation, resulting dose, and has been posted to the Brunswick NFPA 805 SharePoint location for detailed review.

d. Release of liquids to any unrestricted area due to the direct effects of fire suppression activities will be controlled by Pre-Fire Plan 0PFP-TRM, *Transient Radioactive Material Pre-Fire Plan*, which is described as an Implementation Item in Attachment "S", Table S-2, Item 2.