

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-324

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2

RENEWED FACILITY OPERATING LICENSE

Renewed License No. DPR-62

1. The Nuclear Regulatory Commission (NRC or the Commission) having previously made the findings set forth in License No. DPR-62 issued on December 27, 1974, has now found that:
  - A. The application for license filed by Carolina Power & Light Company (CP&L or the licensee) complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I and all required notifications to other agencies or bodies have been duly made;
  - B. Construction of the Brunswick Steam Electric Plant, Unit 2 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-67 and the application, as amended, the provisions of the Act and the rules and regulations of the Commission;
  - C. Actions have been identified and have been or will be taken with respect to (1) managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under 10 CFR 54.21(a)(1); and (2) time-limited aging analyses that have been identified to require review under 10 CFR 54.21(c), such that there is reasonable assurance that the activities authorized by the renewed operating license will continue to be conducted in accordance with the current licensing basis, as defined in 10 CFR 54.3, for the facility, and that any changes made to the facility's current licensing basis in order to comply with 10 CFR 54.29(a) are in accordance with the Act and the Commission's regulations;
  - D. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
  - E. There is reasonable assurance: (i) that the activities authorized by this renewed operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission;
  - F. The licensee is technically and financially qualified to engage in the activities authorized by this renewed operating license in accordance with the rules and regulations of the Commission;

- G. The licensee has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
  - H. The issuance of this renewed operating license will not be inimical to the common defense and security or to the health and safety of the public;
  - I. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of Renewed Facility Operating License No. DPR-62 subject to the conditions for protection of the environment set forth herein is in accordance with 10 CFR Part 51 (formerly Appendix D to 10 CFR Part 50), of the Commission's regulations and all applicable requirements have been satisfied; and
  - J. The receipt, possession, and use of source, byproduct, and special nuclear material as authorized by this renewed license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40, and 70, including 10 CFR Section 30.33, 40.32, and 70.23 and 70.31.
2. Renewed Facility Operating License No. DPR-62 is hereby issued to the Carolina Power & Light Company to read as follows:
- A. This license applies to Brunswick Steam Electric Plant, Unit 2, a boiling water reactor and associated equipment (the facility), owned by the Carolina Power & Light Company and North Carolina Eastern Municipal Power Agency and operated by Carolina Power & Light Company. The facility is located on the Cape Fear River, near Southport in Brunswick County, North Carolina, and is described in the "Final Safety Analysis Report" as supplemented and amended (Amendments 1 through 29) and the "Environmental Report" as supplemented and amended (Supplements 1 through 7).
  - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses Carolina Power & Light Company:
    - (1) Pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility at the designated location in Brunswick County, North Carolina, in accordance with the procedures and limitations set forth in this renewed license;
    - (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

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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) Carolina Power & Light Company shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report for the facility and as approved in the Safety Evaluation Report dated November 22, 1977, as supplemented April 1979, June 11, 1980, December 30, 1986, December 6, 1989, July 28, 1993, and February 10, 1994 respectively, subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

- 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 Appendices A and B, as revised through Amendment No. 268, are hereby incorporated in the license. Carolina Power & Light Company 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 4.8.1.1.2.1.4 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 combined set of plans, which contain Safeguards Information protected under 10 CFR 73.21 is entitled: "BSEP-04-0135/Supl. Response to Order EA-03-086" submitted by letter dated September 30, 2004.

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. CP&L 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.

3. Additional Conditions

The Additional Conditions contained in Appendix B, as revised through Amendment No. 255, are hereby incorporated into this license. Carolina Power & Light Company shall operate the facility in accordance with the Additional Conditions.

FOR THE NUCLEAR REGULATORY COMMISSION

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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