



Carolina Power & Light Company
PO Box 10429
Southport NC 28461-0429

William R. Campbell
Vice President
Brunswick Nuclear Plant

October 22, 1996

SERIAL: BSEP 96-0392
10 CFR 50.90
TSC 94TSB16

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

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
SUPPLEMENT TO REQUEST FOR LICENSE AMENDMENTS
POWER UPRATE
(NRC TAC NOS. M90644/M90645)

Gentlemen:

By letter dated April 2, 1996 (Serial: BSEP 96-0123), Carolina Power & Light Company (CP&L) submitted a request for license amendments to revise the Technical Specifications for the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2, to allow uprate of the units to 105 percent of rated thermal power. Additional information regarding the power uprate license amendment application was submitted by CP&L's letters dated July 1, 1996 (Serial: BSEP 96-0242); July 30, 1996 (Serial: BSEP 96-0287); August 7, 1996 (Serial: BSEP 96-0300); September 13, 1996 (Serial: BSEP 96-0340); September 20, 1996 (Serial: BSEP 96-0348); and October 1, 1996 (Serial: BSEP 96-0362).

On October 2, 1996, representatives from CP&L and the NRC staff met to review the information being used as the technical basis for the NRC staff's safety evaluation for the proposed power uprate license amendment, including commitments that had been made by CP&L as part of the license amendment application. During telephone conversations on October 16, 1996, the NRC staff indicated that certain commitments provided by CP&L in the above referenced letters and one additional commitment (identified separately for each unit in Enclosure 3 of this letter) are being used as part of the NRC staff's basis for approval of the power uprate license amendment and should be documented in the plant operating licenses. To accommodate the NRC staff, CP&L proposes that the commitments shown in Enclosure 1 be referenced as paragraph 2.L in the Unit 1 operating license and that the commitments shown in Enclosure 2 be referenced as paragraph 2.I in the Unit 2 operating license.

As discussed with the NRC staff on October 22, 1996, CP&L intends to satisfy proposed license conditions 2.L(2) and 2.I(2) for Units 1 and 2, respectively in the following manner. During power ascension above 85 percent reactor power, an operator will monitor annunciator A-06, window 3-3, "Recirc Pmp A Motor Vib High" and annunciator A-07, window 2-5, "Recirc Pmp B Motor Vib High." In addition, during Reactor Building tours, an operator will listen for abnormal noise coming from the primary containment. Monitoring of these parameters will occur at approximately 85, 87, 90, 92, 95, 97, and 100 percent power and will be documented in the appropriate plant procedure.

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PDR ADDCK 05000324
P PDR

Tel 910 457-2496 Fax 910 457-2803

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With respect to the commitment regarding equipment environmental qualification, CP&L provides the following correction to NEDC-32466P, "Power Uprate Safety Analysis Report for the Brunswick Steam Electric Plant Units 1 and 2," Section 10.2.2, "EQ of Mechanical Equipment with Non-Metallic Components." The NEDC-32466P report was submitted by CP&L's letter dated November 20, 1995 (Serial: BSEP 95-0535). The September 1995 report states: "Reevaluation of the safety-related mechanical equipment with non-metallic components identified some equipment potentially impacted by the uprated radiation conditions. The qualification of this equipment is resolved either by..." This report, as written, implies that the reevaluation of the safety-related mechanical equipment with non-metallic components impacted by uprated radiation conditions had been completed. Contrary to this statement, reevaluation of the impacts of the uprated radiation conditions on safety-related mechanical equipment with non-metallic components is ongoing and will be resolved in accordance with the proposed license condition prior to Unit 1 start-up for Cycle 11.

Carolina Power & Light Company has completed evaluation of environmental qualification of safety-related electrical equipment inside and outside containment due to the effects of power uprate in accordance with the commitments provided in our previous correspondence. The Company has concluded that this safety-related electrical equipment is qualified for power uprate conditions. Therefore, the proposed license condition for each unit only addresses the resolution of the effects of the uprated radiation conditions on the environmental qualification of safety-related mechanical equipment with non-metallic components.

As a result of the error described above, Carolina Power & Light Company has reviewed the Power Uprate Safety Analysis Report, as amended by our responses to the NRC's requests for additional information, and has not identified any technical clarifications or corrections that are necessary beyond those identified in our previous submittals. Carolina Power & Light Company has reviewed the existing and power uprate environmental profiles, as well as the documentation, design control, maintenance, and procurement processes applicable to the environmental qualification of safety-related mechanical equipment at the Brunswick Plant. We have concluded that these processes contain the elements necessary to ensure and maintain the environmental qualification of safety-related mechanical equipment.

Carolina Power & Light Company has reviewed the proposed operating license paragraphs and determined that adoption of the proposed license amendments do not impact the bases or conclusions of the no significant hazards notice published in the *Federal Register* on May 22, 1996 (61 FR 25698). Documentation in the plant operating licenses of the CP&L commitments being used by the NRC staff as part of the power uprate license amendment approval is considered an administrative change since these commitments have already been documented in letters between CP&L and the NRC that are cited above or discussed with the NRC staff during the October 2, 1996 public meeting.

As previously discussed with the NRR Project Manager, Unit 1 start-up from Refueling Outage 10 is expected to commence on November 3, 1996. Since NRC approval and issuance of this power uprate license amendment request is needed for Unit 1 start-up, and in order to allow time for orderly implementation and incorporation into copies of the Technical Specifications, CP&L requests that the proposed license amendments be issued no later than October 28, 1996.

In the April 2, 1996 license amendment application for power uprate, CP&L indicated that power uprate implementation was planned for the Fall 1996 Unit 1 refueling outage (B111R1) and the

Fall 1997 Unit 2 refueling outage (B213R1). If Unit 2 should shut down for an outage prior to the Fall 1997 refueling outage, implementation of power uprate during such an outage may be determined to be feasible. Therefore, to allow for such an opportunity, CP&L is proposing wording in proposed Unit 2 license condition paragraphs 2.1(1), 2.1(2), and 2.1(5)(a) to require that the necessary actions be completed in conjunction with power uprate implementation, regardless of when such implementation should occur. Carolina Power & Light Company requests that the Unit 2 license amendment, once approved by the NRC, be made effective upon issuance, with an implementation date of start-up following completion of implementation of the power uprate license amendment on Unit 2, but no later than start-up of Unit 2 following Refueling Outage 12 outage for Cycle 13 (B213R1). The Unit 1 license amendment should be made effective upon issuance with an implementation date of no later than start-up following completion of Unit 1 Refueling Outage 10 for Cycle 11 (B111R1).

Carolina Power & Light Company is providing, in accordance with 10 CFR 50.91(b), Mr. Dayne H. Brown of the State of North Carolina with a copy of this supplement to the proposed license amendments.

Please refer any questions regarding this submittal to Mr. Mark A. Turkal at (910) 457-3066.

Sincerely,



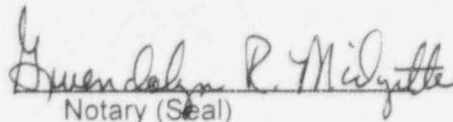
William R. Campbell

WRM/wrm

Enclosures:

1. Proposed Unit 1 Operating License Addition - Paragraph 2.L
2. Proposed Unit 2 Operating License Addition - Paragraph 2.I
3. List of New Regulatory Commitments

William R. Campbell, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, and agents of Carolina Power & Light Company.


Notary (Seal)

My commission expires: August 12, 2001

pc: U. S. Nuclear Regulatory Commission
ATTN.: Mr. Stewart D. Ebnetter, Regional Administrator
101 Marietta Street, N.W., Suite 2900
Atlanta, GA 30323-0199

Mr. C. A. Patterson
NRC Senior Resident Inspector - Brunswick Units 1 and 2:

U.S. Nuclear Regulatory Commission
ATTN.: Mr. David C. Trimble, Jr. (Mail Stop OWFN 14H22)
11555 Rockville Pike
Rockville, MD 20852-2738

The Honorable H. Wells
Chairman - North Carolina Utilities Commission
P.O. Box 29510
Raleigh, NC 27626-0510

Mr. Dayne H. Brown
Director - Division of Radiation Protection
North Carolina Department of Environment, Health, and Natural Resources
P.O. Box 27687
Raleigh, NC 27611-7687

ENCLOSURE 1

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
NRC DOCKET NOS. 50-325 AND 50-324
OPERATING LICENSE NOS. DPR-71 AND DPR-62
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UNIT 1 OPERATING LICENSE ADDITION - PARAGRAPH 2.L

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) Control Rod Drive (CRD) System

During initial Unit 1 Cycle 11 start-up testing, if the licensee determines that adequate CRD System cooling and drive flow is not available under power uprate conditions, the licensee shall repair or modify the CRD System, as necessary, to assure that the system will continue to carry out its functions at uprated conditions.

(2) Recirculation Pump Motor Vibration

Perform monitoring of recirculation pump motor vibration during initial Unit 1 Cycle 11 power ascension for uprated power conditions. Vibration and noise shall be evaluated prior to and at uprated conditions to ensure no significant increase in vibration or noise occurs with power uprate.

(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) Equipment Qualification

Environmental qualification of safety-related mechanical equipment with non-metallic components affected by uprated radiation conditions shall be resolved prior to Unit 1 start-up for Cycle 11 operation either by:

- (a) Refined radiation calculations (location specific), and/or
- (b) Slightly reducing the qualified life, and/or

- (c) Assessing the qualification bases by demonstrating qualification based on actual test and materials threshold data while maintaining the regulatory margin, and/or
- (d) Assessing the impact of the radiation test and/or published threshold data on the material properties and its safety function.

(5) Human Factors

(a) Classroom Training

Power Uprate Operator Training, including the plant operating parameter changes resulting from power uprate, shall be performed as part of License Operator Retraining (LOR) prior to Unit 1 start-up for Cycle 11 operation.

(b) Simulator Training

Simulator training for power uprate shall be completed prior to Unit 1 start-up for Cycle 11 operation. The simulator training will include the following:

- (i) A demonstration of selected transients at the uprated power compared to the non-uprated power, including changes in time to achieve critical points for operator actions.
- (ii) The time to meet the conditions to inject boron for a high power ATWS.
- (iii) The time to depressurize the reactor on a loss of all high pressure injection (time to achieve conditions requiring emergency depressurization at TAF, non-ATWS).

(c) Simulator Modification

Prior to Unit 1 start-up for Cycle 11, the simulator shall be modified to match the uprated control room, as close as possible, with the exception of the zone coding for the High Pressure Coolant Injection (HPCI) System and Reactor Core Isolation Cooling (RCIC) System speed indication meters. The HPCI and RCIC speed indication zone coding shall be completed prior to Unit 2 start-up following the implementation of the power uprate license amendment.

ENCLOSURE 2

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
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UNIT 2 OPERATING LICENSE ADDITION - PARAGRAPH 2.1

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) Control Rod Drive (CRD) System

During initial start-up testing following implementation of the power uprate license amendment, the licensee shall determine that adequate CRD System cooling and drive flow is available under power uprate conditions. If adequate CRD System cooling and drive flow is not available under power uprate conditions, the licensee shall repair or modify the CRD System, as necessary, to assure that the system will continue to carry out its functions at uprated conditions.

(2) Recirculation Pump Motor Vibration

Upon implementation of the power uprate license amendment, perform monitoring of recirculation pump motor vibration during the initial power ascension for uprated power conditions. Vibration and noise shall be evaluated prior to and at uprated conditions to ensure no significant increase in vibration or noise occurs with power uprate.

(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) Equipment Qualification

Environmental qualification of safety-related mechanical equipment with non-metallic components affected by uprated radiation conditions shall be resolved prior to Unit 1 start-up for Cycle 11 operation either by:

- (a) Refined radiation calculations (location specific), and/or
 - (b) Slightly reducing the qualified life, and/or
 - (c) Assessing the qualification bases by demonstrating qualification based on actual test and materials threshold data while maintaining the regulatory margin, and/or
 - (d) Assessing the impact of the radiation test and/or published threshold data on the material properties and its safety function.
- (5) Human Factors
- (a) Simulator Modification
- Prior to the initial start-up following implementation of the power uprate license amendment, the simulator shall be modified to match the uprated Unit 2 control room, as close as possible.

ENCLOSURE 3

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
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LIST OF REGULATORY COMMITMENTS

The following table identifies those actions committed to by Carolina Power & Light Company in this document. Any other actions discussed in the submittal represent intended or planned actions by Carolina Power & Light Company. They are described to the NRC for the NRC's information and are not regulatory commitments. Please notify the Manager-Regulatory Affairs at the Brunswick Nuclear Plant of any questions regarding this document or any associated regulatory commitments.

Commitment	Committed date or outage
1. During initial Unit 1 Cycle 11 start-up testing, if the licensee determines that adequate CRD System cooling and drive flow is not available under power uprate conditions, CP&L will repair or modify the CRD System, as necessary, to assure that the system will continue to carry out its functions at uprated conditions.	During initial Unit 1 Cycle 11 start-up
2. During initial start-up testing for Unit 2 following implementation of the power uprate license amendment, CP&L will determine that adequate CRD System cooling and drive flow is available under power uprate conditions. If adequate CRD System cooling and drive flow is not available under power uprate conditions, CP&L will repair or modify the CRD System, as necessary, to assure that the system will continue to carry out its functions at uprated conditions.	During initial start-up testing for Unit 2 following implementation of the power uprate license amendment