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Docket No. 50-325

JAN 19 1979

Mr. J. A. Jones  
 Executive Vice President  
 Carolina Power & Light Company  
 336 Fayetteville Street  
 Raleigh, North Carolina 27602

Dear Mr. Jones:

The Commission has issued the enclosed Amendment No. 18 to Facility License No. DPR-71 for Brunswick Steam Electric Plant, Unit No. 1. This amendment consists of a change to the Technical Specifications in response to your request dated January 18, 1979.

This amendment adds a Special Test Exception to allow lowering the reactor vessel water level for extended maintenance during the current refueling outage. You were notified of this change by telephone and telecopy on January 19, 1979.

Certain administrative changes were made to the Technical Specification language to make it conform to standard wording and format. Your staff was informed of these changes on January 19, 1979.

Copies of the Safety Evaluation and Notice of Issuance are also enclosed.

Sincerely,

Original Signed by  
 T. A. Ippolito

Thomas A. Ippolito, Chief  
 Operating Reactors Branch #3  
 Division of Operating Reactors

Enclosures:

1. Amendment No. 18 to DPR-71
2. Safety Evaluation
3. Notice

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cc w/enclosures:

OFFICE	See next page	ORB #3	ORB #3	OELD	ORB #3
SURNAME	R.S. W. Mills	SSheppard	JHannon:mif	S.H. Lewis	Tippolito
DATE	1/19/79	1/19/79	1/19/79	1/19/79	1/19/79



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

January 19, 1979

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Carolina Power & Light Company  
336 Fayetteville Street  
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Thomas A. Ippolito, Chief  
Operating Reactors Branch #3  
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3. Notice

cc w/enclosures:  
See next page

Mr. J. A. Jones

- 2 -

January 19, 1979

cc: Richard E. Jones, Esquire  
Carolina Power & Light Company  
336 Fayetteville Street  
Raleigh, North Carolina 27602

George F. Trowbridge, Esquire  
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Washington, D. C. 20036

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110 North Fifth Avenue  
Wilmington, North Carolina 28461

Mr. Steve J. Varnam  
Chairman, Board of County  
Commissioners of Brunswick County  
Southport, North Carolina 28461

Denny McGuire (Ms)  
State Clearinghouse  
Division of Policy Development  
116 West Jones Street  
Raleigh, North Carolina 27603

Southport - Brunswick County Library  
109 W. Moore Street  
Southport, North Carolina 28461

Director, Technical Assessment Division  
Office of Radiation Programs (AW-459)  
US EPA  
Crystal Mall #2  
Arlington, Virginia 20460

U.S. Environmental Protection Agency  
Region IV Office  
ATTN: EIS COORDINATOR  
345 Courtland Street, NW  
Atlanta, Georgia 30308



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

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-325

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 18  
License No. DPR-71

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Carolina Power & Light Company (the licensee) dated January 18, 1979, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-71 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 18, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Thomas A. Ippolito, Chief  
Operating Reactors Branch #3  
Division of Operating Reactors

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: January 19, 1979

ATTACHMENT TO LICENSE AMENDMENT NO.

FACILITY OPERATING LICENSE NO. DPR-71

DOCKET NO. 50-325

Revise Appendix A as follows:

Add pages 3/4 10-5, 3/4 10-6 and 3/4 10-7

SPECIAL TEST EXCEPTIONS

3/4.10.5 REACTOR VESSEL DRAINING

LIMITING CONDITION FOR OPERATION

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3.10.5 The provisions of Specification 3.3.2 may be suspended to permit the Table 3.3.2-1, Shutdown Cooling System Isolation Reactor Vessel Water-Low, Level 1 instrumentation to be inoperable to permit lowering of the reactor vessel water level to  $\geq 45$  inches above the top of the (active fuel) for inspection, maintenance and repair of core spray system, control rod drive system and other piping, provided that the:

- a. LPCI mode of the RHR system is OPERABLE per Specification 3.5.3.2.
- b. LPCI mode of the RHR system actuation instrumentation is OPERABLE per Specification 3.3.3.
- c. Temporary reactor vessel water level monitoring and alarm system is OPERABLE with a low water level alarm setpoint  $\geq 45$  inches above the top of the (active fuel).
- d. Two control rod drive pumps are OPERABLE. The standby pump shall have an independent emergency power supply.
- e. The Demineralizer Water System is OPERABLE as a backup makeup water system.
- f. No other operations with a potential for draining the reactor vessel are in progress.

APPLICABILITY: CONDITION 5, during the shutdown between Cycles 1 and 2.

ACTION

- a. With the reactor vessel water level less than 45 inches above the top of the (active fuel), immediately:
  - 1. Close the shutdown cooling system suction isolation valves, and
  - 2. Evacuate the reactor vessel.

## SPECIAL TEST EXCEPTIONS

### 3/4.10.5 REACTOR VESSEL DRAINING

#### LIMITING CONDITION FOR OPERATION

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#### ACTION (Continued)

- b. With the temporary reactor vessel water level monitoring and alarm system inoperable, Operation with the Reactor Vessel Water-Low, Level 1 instrumentation bypassed may continue for up to two (2) hours, provided:
  - 1. The reactor vessel water level is immediately verified to be stable and  $\geq 45$  inches above the top of the (active fuel),
  - 2. An operator is posted to monitor water level continuously during the period, and
  - 3. If conditions 1 and 2 above cannot be met, satisfy the requirements of ACTION a. above.
- c. With one control rod drive (CRD) pump inoperable, restore the inoperable control rod drive pump to OPERABLE status within 24 hours or close the shutdown cooling system suction isolation valves within the next hour.
- d. With both control rod drive (CRD) pumps inoperable, close the shutdown cooling system suction isolation valves.
- e. With the Demineralized Water System inoperable as a backup makeup water system, provided that both CRD pumps are OPERABLE, restore the backup makeup water system to OPERABLE status within 24 hours or close the shutdown cooling system suction isolation valves.

#### SURVEILLANCE REQUIREMENTS

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4.10.5 The temporary reactor vessel water level monitoring and alarm system shall be demonstrated OPERABLE:

- a. By performance of a CHANNEL CALIBRATION prior to making the Shutdown Cooling System Reactor Vessel Water - Low, Level 1 instrumentation inoperable.
- b. At least once per 7 days while the Shutdown Cooling System Reactor Vessel Water - Low, Level 1 instrumentation is inoperable by performance of a CHANNEL FUNCTIONAL TEST.

SPECIAL TEST EXCEPTIONS

SURVEILLANCE REQUIREMENTS (Continued)

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- c. Each CRD pump shall be verified OPERABLE by:
  - 1. Starting the pump, if not operating, at least once per 7 days, and
  - 2. Verifying an independent emergency power supply at least once per 7 days by verifying correct breaker alignment and indicated power availability for the standby pump.
- d. The Demineralized Water System shall be demonstrated OPERABLE as a backup makeup water system at least once per 7 days by verifying flow from the Demineralized Water System on the refueling floor.
- e. The reactor vessel "2/3 core height" water level indication channel shall be demonstrated OPERABLE at least once per 12 hours by a CHANNEL CHECK.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 18 TO FACILITY LICENSE NO. DPR-71

CAROLINA POWER & LIGHT COMPANY

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 1

DOCKET NO. 50-325

INTRODUCTION

During the end of Cycle 1 refueling outage for Brunswick Steam Electric Plant Unit 1, Carolina Power & Light Company (the licensee) had proposed Technical Specification changes to the low reactor vessel water level instrumentation. These changes are necessary to provide a means for performing specific maintenance and modification work to the reactor systems during this refueling outage. In order that this work may be performed, the vessel low water level must be lowered below the Level #1 and Level #2 vessel low water level set points. Since shutdown cooling as a means of level control and water chemistry control must be maintained during this maintenance certain isolation actuation instrumentation must be temporarily modified. These modifications will alter the isolation actuation of valve groups 2, 3, 6 and 8.

Reactor vessel water chemistry control and shutdown cooling will still be maintained using the normal systems installed for this purpose. Vessel water level will be controlled by feeding with the control rod drive system and bleeding with the reactor water cleanup system. The vessel water level will be monitored using specially installed instrumentation.

SUMMARY

The major effect of these changes is that the RHR shutdown cooling system isolation valves and the cleanup system isolation valves will not close automatically at the normal level set points. Closure of these valves must now rely on operator actuation. To determine the need to actuate closure the operator will rely on special instrumentation that is designed and installed such that the water level can be monitored through a range of + or - 15 inches about the desired level. Alarms and level indicators are provided on the refueling floor and in the control room. The control room monitoring and alarm function will use a normally installed reactor water level recorder and annunciator which will alarm if the water level deviates from the desired level by + or - 5 inches.

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If the water level drops to -10 inches, the operator shall take action to isolate (close) the shutdown cooling system suction valves to prevent further loss of inventory and provide additional makeup as necessary. In addition, if the temporary reactor vessel water level monitoring and alarm system fails (becomes inoperable) the operator will take corrective action as specified in the temporary Technical Specifications.

Normal vessel level control will use water from the control rod drive system feeding the vessel with the cleanup system letting down excess inventory. A backup source of makeup water from clean demineralized water system will be available for use if necessary. The control rod drive system and the clean demineralized water system are adequate to provide normal level control and makeup for small leaks. For larger leaks and LOCA's for which these systems are not adequate, a level decrease (to L3) will automatically initiate LPCI to maintain vessel inventory. Since LPCI is required to be operable in accordance with T.S. 3.5.3.2, the ECCS availability has not been changed for this special test exception. The significant change is manual closure of the shutdown cooling suction isolation valves. In the unlikely case of certain LOCA's greater initial loss of inventory than with automatic closure could result. However, with either manual or automatic closure, any rapid level decrease is by design limited to 1/3 core height. For long term cooling, the systems available for maintaining adequate cooling are not affected by this change. Therefore, no new safety concerns exist and we find the proposed change acceptable for the current refueling outage at BSEP Unit 1.

#### Environmental Consideration

We have determined that this amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that this amendment involves an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR §51.5(d)(4) that an environmental impact statement, negative declaration, or environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

#### Conclusion

We have concluded, based on the considerations discussed above, that: (1) because this amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's

regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: January 19, 1979

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-325CAROLINA POWER & LIGHT COMPANYNOTICE OF ISSUANCE OF AMENDMENT TO FACILITY  
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 18 to Facility Operating License No. DPR-71, issued to Carolina Power & Light Company (the licensee) for operation of the Brunswick Steam Electric Plant, Unit No. 1 (the facility), located in Brunswick County, North Carolina. The amendment is effective as of its date of issuance.

The amendment adds a Special Test Exception to allow lowering the reactor vessel water level for extended maintenance during the current refueling outage.

The application for amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of the amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of the amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of the amendment.

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For further details with respect to this action, see (1) the application for amendment dated January 18, 1978, (2) Amendment No. 18 to License No. DPR-71, and (3) the Commission's related Safety Evaluation. These items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. 20555, and at the Southport-Brunswick County Library, 109 West Moore Street, Southport, North Carolina 28461. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland this 19th day of January 1979.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Thomas A. Ippolito, Chief  
Operating Reactors Branch #3  
Division of Operating Reactors