

April 19, 1989

Docket Nos. 50-325  
and 50-324

DISTRIBUTION  
See attached list

Mr. Lynn E. Eury  
Executive Vice President  
Power Supply  
Carolina Power & Light Company  
Post Office Box 1551  
Raleigh, North Carolina 27602

Dear Mr. Eury:

SUBJECT: ISSUANCE OF AMENDMENT NO. 127 TO FACILITY OPERATING LICENSE NO. DPR-71 AND AMENDMENT NO. 157 TO FACILITY OPERATING LICENSE NO. DPR-62 - BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2, REGARDING CONTROL ROD BANKED POSITION WITHDRAWAL (TAC NOS. 65397 AND 65398)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 127 to Facility Operating License No. DPR-71 and Amendment No. 157 to Facility Operating License No. DPR-62, for Brunswick Steam Electric Plant, Units 1 and 2. The amendments consist of changes to the Technical Specifications in response to your submittal dated August 3, 1987.

The amendments change the Technical Specifications to require the use of the Banked Position Withdrawal Sequence (BPWS) as the Rod Worth Minimizer (RWM) Control Rod Program in Technical Specification (TS) 3/4.1.4 "Control Rod Program Controls." In addition, the word "Operational" is placed before the word "Condition" in TS 3/4.1.4.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's Bi-Weekly Federal Register Notice.

Sincerely,

Original Signed By:

Edmond G. Tourigny, Senior Project Manager  
Project Directorate II-1  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No. 127 to License No. DPR-71
- 2. Amendment No. 157 to License No. DPR-62
- 3. Safety Evaluation

cc w/enclosures:

See next page  
[BSEP12 AMEND 65397-98

OFC	:LA:PD21:DRPR:PM:PD21:DRPR:D-021:DRPR	:	:	:	:
NAME	:Patterson:Tourigny:jw:Reeves	:	:	:	:
DATE	:2/13/89 4/17/89 4/19/89	:	:	:	:

B905040032 B90419  
PDR ADDCK 05000324  
P PNU

DF01  
11  
*[Handwritten signatures]*

April 19, 1989

Docket Nos. 50-325  
and 50-324

DISTRIBUTION  
See attached list

Mr. Lynn E. Eury  
Executive Vice President  
Power Supply  
Carolina Power & Light Company  
Post Office Box 1551  
Raleigh, North Carolina 27602

Dear Mr. Eury:

SUBJECT: ISSUANCE OF AMENDMENT NO. 127 TO FACILITY OPERATING LICENSE  
NO. DPR-71 AND AMENDMENT NO. 157 TO FACILITY OPERATING LICENSE NO.  
DPR-62 - BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2,  
REGARDING CONTROL ROD BANKED POSITION WITHDRAWAL  
(TAC NOS. 65397 AND 65398)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 127 to Facility Operating License No. DPR-71 and Amendment No. 157 to Facility Operating License No. DPR-62, for Brunswick Steam Electric Plant, Units 1 and 2. The amendments consist of changes to the Technical Specifications in response to your submittal dated August 3, 1987.

The amendments change the Technical Specifications to require the use of the Banked Position Withdrawal Sequence (BPWS) as the Rod Worth Minimizer (RWM) Control Rod Program in Technical Specification (TS) 3/4.1.4 "Control Rod Program Controls." In addition, the word "Operational" is placed before the word "Condition" in TS 3/4.1.4.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's Bi-Weekly Federal Register Notice.

Sincerely,

Original Signed By:

Edmond G. Tourigny, Senior Project Manager  
Project Directorate II-1  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 127 to License No. DPR-71
2. Amendment No. 157 to License No. DPR-62
3. Safety Evaluation

cc w/enclosures:

See next page

[BSEP12 AMEND 65397-98

OFC	:LA:PD21:DRPR:PM:PD21:DRPR:D:PD21:DRPR	:	:	:	:
NAME	: Anderson : E Tourigny : jw : Reeves	:	:	:	:
DATE	: 2/13/89 : 4/17/89 : 4/19/89	:	:	:	:



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

CAROLINA POWER & LIGHT COMPANY, et al.

DOCKET NO. 50-325

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 127  
License No. DPR-71

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment filed by Carolina Power & Light Company (the licensee), dated August 3, 1987, 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:

8905040044 890419  
PDR ADDCK 05000324  
P PNU

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 127, are hereby incorporated in the license. Carolina Power & Light Company shall operate the facility in accordance with the Technical Specifications.

- 3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days of issuance.

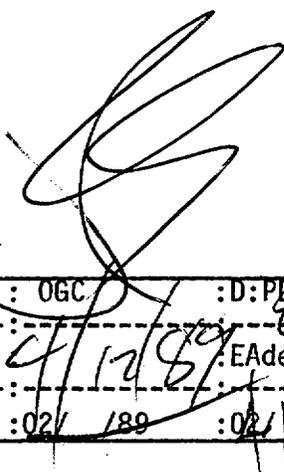
FOR THE NUCLEAR REGULATORY COMMISSION

Elinor Adensam/for

Edward A. Reeves, Acting Director  
Project Directorate II-1  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: April 19, 1989



OFC	:LA:	PL21:	DRPR:	PM:	PD21:	DRPR:	RSXB	:	OGC	:	D:	PD21:	DRPR	:
NAME	: PAnderson	:	Efourigny:	:	WHdoges	:	4/12/89	:	EAdensam	:		:		:
DATE	:02/13/89	:	02/14/89	:	02/14/89	:	02/14/89	:	02/19/89	:		:		:

ATTACHMENT TO LICENSE AMENDMENT NO. 127

FACILITY OPERATING LICENSE NO. DPR-71

DOCKET NO. 50-325

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

Remove Pages

3/4 1-14  
B 3/4 1-3  
B 3/4 1-4

Insert Pages

3/4 1-14  
B 3/4 1-3  
B 3/4 1-4

## REACTIVITY CONTROL SYSTEMS

### 3/4.1.4 CONTROL ROD PROGRAM CONTROLS

#### ROD WORTH MINIMIZER

##### LIMITING CONDITION FOR OPERATION

---

3.1.4.1 The Rod Worth Minimizer (RWM) shall be OPERABLE when THERMAL POWER is less than 20% of RATED THERMAL POWER.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2\*.

##### ACTION:

With the RWM inoperable, the provisions of Specification 3.0.4 are not applicable, operation may continue and control rod movement is permitted provided that a second licensed operator or other qualified member of the technical staff is present at the reactor control console and verifies compliance with the prescribed control rod pattern.

##### SURVEILLANCE REQUIREMENTS

---

4.1.4.1.1 The RWM shall be demonstrated OPERABLE in OPERATIONAL CONDITION 2, prior to withdrawal of control rods for the purpose of making the reactor critical and in OPERATIONAL CONDITION 1 when the RWM is initiated during control rod insertion when reducing THERMAL POWER by:

- a. Verifying proper annunciation of the selection error of at least one out-of-sequence control rod, and
- b. Verifying the rod block function of the RWM by moving an out-of-sequence control rod.

4.1.4.1.2 The RWM shall be demonstrated OPERABLE by verifying the control rod Banked Position Withdrawal Sequence input to the RWM computer is correct following any loading of the sequence program into the computer.

\*Entry into OPERATIONAL CONDITION 2 and withdrawal of selected control rods is permitted for the purpose of determining the OPERABILITY of the RWM prior to withdrawal of control rods for the purpose of bringing the reactor to criticality.

## REACTIVITY CONTROL SYSTEM

### BASES

#### CONTROL RODS (Continued)

on a scram than has been analyzed even though control rods with inoperable accumulators may still be inserted with normal drive water pressure. Operability of the accumulator ensures that there is a means available to insert the control rods even under the most unfavorable depressurization of the reactors.

Control rod coupling integrity is required to ensure compliance with the analysis of the rod drop accident in the FSAR. The overtravel position feature provides the only positive means of determining that a rod is properly coupled and, therefore, this check must be performed prior to achieving criticality after reach refueling. The subsequent check is performed as a backup to the initial demonstration.

In order to ensure that the control rod patterns can be followed and, therefore, that other parameters are within their limits, the control rod position indication system must be OPERABLE.

The control rod housing support restricts the outward movement of a control rod to less than 3 inches in the event of a housing failure. The amount of rod reactivity which could be added by this small amount of rod withdrawal is less than a normal withdrawal increment and will not contribute to any damage to the primary coolant system. The support is not required when there is no pressure to act as a driving force to rapidly eject a drive housing.

The required surveillance intervals are adequate to determine that the rods are OPERABLE and not so frequent as to cause excessive wear on the system components.

#### 3/4.1.4 CONTROL ROD PROGRAM CONTROLS

Control rod withdrawal and insertion sequences are established to assure that the maximum in sequence individual control rod or control rod segments which are withdrawn at any time during the fuel cycle could not be worth enough to result in a peak fuel enthalpy greater than 280 cal/gm in the event of a control rod drop accident. The specified sequences are characterized by homogeneous, scattered patterns of control rod withdrawal. When THERMAL POWER is greater than or equal to 20% of RATED THERMAL POWER, there is no possible rod worth which, if dropped at the design rate of the velocity limiter, could result in a peak enthalpy of 280 cal/gm. Thus, requiring the RSCS and RWM to be OPERABLE when THERMAL POWER is less than 20% of RATED THERMAL POWER provides adequate control.

Use of the Banked Position Withdrawal Sequence (BPWS) ensures that in the event of a control rod drop accident the peak fuel enthalpy will not be greater than 280 cal/gm (Reference 4).

## REACTIVITY CONTROL SYSTEM

### BASES

#### CONTROL ROD PROGRAM CONTROLS (Continued)

The RSCS and RWM provide automatic supervision to assure that out-of-sequence rods will not be withdrawn or inserted.

The analysis of the rod drop accident is presented in Section 15.4.6 of the Updated FSAR and the techniques of the analysis are presented in a topical report (Reference 1) and two supplements (References 2 and 3).

The RBM is designed to automatically prevent fuel damage in the event of erroneous rod withdrawal from locations of high power density during high power operation. Two channels are provided. Tripping one of the channels will block erroneous rod withdrawal soon enough to prevent fuel damage. This system backs up the written sequence used by the operator for withdrawal of control rods.

#### 3/4.1.5 STANDBY LIQUID CONTROL SYSTEM

The standby liquid control system provides a backup capability for maintaining the reactor subcritical in the event that insufficient rods are inserted in the core when a scram is called for. The volume and weight percent of poison material in solution is based on being able to bring the reactor to the subcritical condition as the plant cools to ambient condition. The temperature requirement is necessary to keep the sodium pentaborate in solution. Checking the volume and temperature once each 24 hours assures that the solution is available for use.

With redundant pumps and a highly reliable control rod scram system, operation of the reactor is permitted to continue for short periods of time with the system inoperable or for longer periods of time with one of the redundant components inoperable.

Surveillance requirements are established on a frequency that assures a high reliability of the system. Once the solution is established, boron concentration will not vary unless more boron or water is added, thus a check on the temperature and volume once each 24 hours assures that the solution is available for use.

1. C. J. Paone, R. C. Stirn, and J. A. Woodley, "Rod Drop Accident Analysis for Large BWRs, "G. E. Topical Report NEDO-10527, March 1972.
2. C. J. Paone, R. C. Stirn, and R. M. Yound, Supplement 1 to NEDO-10527, July 1972.
3. J. A. Haum, C. J. Paone, and R. C. Stirn, addendum 2, "Exposed Cores", supplement 2 to NEDO-10527, January 1973.
4. NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel," Revision 6, Amendment 12.



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

CAROLINA POWER & LIGHT COMPANY, et al.

DOCKET NO. 50-324

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 157  
License No. DPR-62

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment filed by Carolina Power & Light Company (the licensee), dated August 3, 1987, 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-62 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 157, are hereby incorporated in the license. Carolina Power & Light Company shall operate the facility in accordance with the Technical Specifications.

- 3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Elinor Adensam/for

Edward A. Reeves, Acting Director  
Project Directorate II-1  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: April 19, 1989

OFC	:LA:PD21:DRPR:PM:PD21:DRPR:	RSXB	: OGC	:D:PD21:DRPR :
NAME	:PAnderson	:ETourigny:	:WHodges	:EAdensam
DATE	:02/13/89	:02/14/89	:02/14/89	:02/14/89

ATTACHMENT TO LICENSE AMENDMENT NO. 157

FACILITY OPERATING LICENSE NO. DPR-62

DOCKET NO. 50-324

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

Remove Pages

3/4 1-14  
B 3/4 1-3  
B 3/4 1-4

Insert Pages

3/4 1-14  
B 3/4 1-3  
B 3/4 1-4

## REACTIVITY CONTROL SYSTEMS

### 3/4 1.4 CONTROL ROD PROGRAM CONTROLS

#### ROD WORTH MINIMIZER

##### LIMITING CONDITION FOR OPERATION

3.1.4.1 The Rod Worth Minimizer (RWM) shall be OPERABLE when THERMAL POWER is less than 20% of RATED THERMAL POWER.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2\*.

##### ACTION:

With the RWM inoperable, the provisions of Specification 3.0.4 are not applicable, operation may continue, and control rod movement is permitted provided that a second licensed operator or other qualified member of the technical staff is present at the reactor control console and verifies compliance with the prescribed control rod pattern.

##### SURVEILLANCE REQUIREMENTS

4.1.4.1.1 The RWM shall be demonstrated OPERABLE in OPERATIONAL CONDITION 2, prior to withdrawal of control rods for the purpose of making the reactor critical and in OPERATIONAL CONDITION 1 when the RWM is initiated during control rod insertion when reducing THERMAL POWER by:

- a. Verifying proper annunciation of the selection error of at least one out-of-sequence control rod, and
- b. Verifying the rod block function of the RWM by moving an out-of-sequence control rod.

4.1.4.1.2 The RWM shall be demonstrated OPERABLE by verifying the control rod Banked Position Withdrawal Sequence input to the RWM computer is correct following any loading of the sequence program into the computer.

\*Entry into OPERATIONAL CONDITION 2 and withdrawal of selected control rods is permitted for the purpose of determining the OPERABILITY of the RWM prior to withdrawal of control rods for the purpose of bringing the reactor to criticality.

## REACTIVITY CONTROL SYSTEM

### BASES

#### CONTROL RODS (Continued)

on a scram than has been analyzed even though control rods with inoperable accumulators may still be inserted with normal drive water pressure. Operability of the accumulator ensures that there is a means available to insert the control rods even under the most unfavorable depressurization of the reactors.

Control rod coupling integrity is required to ensure compliance with the analysis of the rod drop accident in the FSAR. The overtravel position feature provides the only positive means of determining that a rod is properly coupled and therefore this check must be performed prior to achieving criticality after each refueling. The subsequent check is performed as a backup to the initial demonstration.

In order to ensure that the control rod patterns can be followed and therefore that other parameters are within their limits, the control rod position indication system must be OPERABLE.

The control rod housing support restricts the outward movement of a control rod to less than 3 inches in the event of a housing failure. The amount of rod reactivity which could be added by this small amount of rod withdrawal is less than a normal withdrawal increment and will not contribute to any damage to the primary coolant system. The support is not required when there is no pressure to act as a driving force to rapidly eject a drive housing.

The required surveillance intervals are adequate to determine that the rods are OPERABLE and not so frequent as to cause excessive wear on the system components.

#### 3/4.1.4 CONTROL ROD PROGRAM CONTROLS

Control rod withdrawal and insertion sequences are established to assure that the maximum in sequence individual control rod or control rod segments which are withdrawn at any time during the fuel cycle could not be worth enough to result in a peak fuel enthalpy greater than 280 cal/gm in the event of a control rod drop accident. The specified sequences are characterized by homogeneous, scattered patterns of control rod withdrawal. When THERMAL POWER is greater than or equal to 20% of RATED THERMAL POWER, there is no possible rod worth which, if dropped at the design rate of the velocity limiter, could result in a peak enthalpy of 280 cal/gm. Thus, requiring the RSCS and RWM to be OPERABLE when THERMAL POWER is less than 20% of RATED THERMAL POWER provides adequate control.

## REACTIVITY CONTROL SYSTEM

### BASES

#### CONTROL ROD PROGRAM CONTROLS (Continued)

Use of the Banked Position Withdrawal Sequence (BPWS) ensures that in the event of a control rod drop accident, the peak fuel enthalpy will not be greater than 280 cal/gm (Reference 4).

The RSCS and RWM provide automatic supervision to assure that out-of-sequence rods will not be withdrawn or inserted.

The analysis of the rod drop accident is presented in Section 15.4.6 of the Updated FSAR, and the techniques of the analysis are presented in a topical report (Reference 1) and two supplements (References 2 and 3).

The RBM is designed to automatically prevent fuel damage in the event of erroneous rod withdrawal from locations of high power density during high power operation. Two channels are provided. Tripping one of the channels will block erroneous rod withdrawal soon enough to prevent fuel damage. This system backs up the written sequence used by the operator for withdrawal of control rods.

#### 3/4.1.5 STANDBY LIQUID CONTROL SYSTEM

The standby liquid control system provides a backup capability for maintaining the reactor subcritical in the event that insufficient rods are inserted in the core when a scram is called for. The volume and weight percent of poison material in solution is based on being able to bring the reactor to the subcritical condition as the plant cools to ambient condition. The temperature requirement is necessary to keep the sodium pentaborate in solution. Checking the volume and temperature once each 24 hours assures that the solution is available for use.

With redundant pumps and a highly reliable control rod scram system, operation of the reactor is permitted to continue for short periods of time with the system inoperable or for longer periods of time with one of the redundant components inoperable.

1. C. J. Paone, R. C. Stirn, and J. A. Woodley, "Rod Drop Accident Analysis for Large BWRs " G. E. Topical Report NEDO-10527, March 1972.
2. C. J. Paone, R. C. Stirn, and R. M. Yound, Supplement 1 to NEDO-10527, July 1972.
3. J. A. Haum, C. J. Paone, and R. C. Stirn, addendum 2 "Exposed Cores" supplement 2 to NEDO-10527, January 1973.
4. NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel," Revision 6, Amendment 12.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 127 TO FACILITY OPERATING LICENSE NO. DPR-71  
AND AMENDMENT NO. 157 TO FACILITY OPERATING LICENSE NO. DPR-62  
CAROLINA POWER & LIGHT COMPANY et al.  
BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2  
DOCKET NOS. 50-325 AND 50-324

1.0 INTRODUCTION

By letter dated August 3, 1987, Carolina Power & Light Company submitted a request for changes to the Brunswick Steam Electric Plant, Unit 1 and 2 Technical Specifications (TS).

The amendment would require the use of the Banked Position Withdrawal Sequence (BPWS) as the Rod Worth Minimizer (RWM) Control Rod Program in TS 3/4.1.4, "Control Rod Program Controls." In addition, the word "Operational" would be placed before the word "Condition" in TS 3/4.1.4.

2.0 EVALUATION

At the present time, TS 4.1.4.1.2 states that the RWM shall be demonstrated operable by verifying the control rod sequence input to the RWM computer is correct following any loading of the sequence program in the computer. By requiring the BPWS, this surveillance requirement would state that the RWM shall be demonstrated operable by verifying the control rod Banked Position Withdrawal Sequence input to the RWM computer is correct following any loading of the sequence program into the computer.

The licensee's safety analysis in support of this amendment is as follows:

General Electric (GE) has developed BPWS rod patterns applicable to Group Notch Rod Sequence Control reactors, such as the BSEP units. The NRC has issued a Safety Evaluation Report (SER) to GE on October 11, 1985, which allows group notch reactors to take credit for the Control Rod Drop Accident (CRDA) statistical analysis and conclusions previously approved by the NRC for GE in an SER dated October 13, 1983 for reactors using BPWS, enforced only by the RWM.

A BWR's control rods are removed from the reactor core from the bottom, thus the possibility that a control rod could become unlatched from its drive mechanism and later fall from the core, resulting in possible fuel failure, must be addressed. One of the mechanisms designed to ensure that fuel failure does not result if a

8905040088 890419  
PDR ADOCK 05000324  
P PNU

CRDA should occur is the RWM. The RWM tracks control rod movement and generates rod blocks in the high worth area from 100 percent control rod density (all control rods inserted) to approximately 20 percent power. It ensures that a programmed control rod sequence is being followed when the reactor is in the high worth area. The BPWS rod patterns have been analytically determined to keep the fuel pellet enthalpy less than 280 calories per gram under worst-case CRDA conditions.

Currently, Surveillance Requirement 4.1.4.1.2 requires verification that the control rod sequence input to the RWM computer is correct following its loading into the computer. The proposed revision specifies that this sequence program be GE's generic BPWS rod pattern program. Brunswick normally implements this program but does not take credit for its use in cycle specific reload topical reports. Specifying the use of BPWS rod patterns allow use of GE's generic CRDA analysis and eliminates the need for performing cycle specific analyses.

The staff has reviewed the above described safety analysis presented by the licensee. The BPWS rod patterns ensure that, under worst-case CRDA conditions, the fuel pellet enthalpy will remain at less than 280 calories per gram. Therefore, fuel failure will not occur. On this basis, the Technical Specification change is acceptable.

Presently, TS 3/4.1.4 does not use the phrase "Operational Condition" and just uses the word "Condition". The phrase "Operational Condition" is used throughout the TS. The licensee is proposing the phrase "Operational Condition" to ensure consistency throughout the TS. The staff agrees that there should be terminology consistency throughout the TS, and the administrative change is acceptable.

### 3.0 ENVIRONMENTAL CONSIDERATIONS

These amendments change a requirement with respect to installation or use of a facility component located within the restricted areas as defined in 10 CFR Part 20 and changes the surveillance requirements. The staff has determined that these amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released off site; and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration, and there has been no public comment on such finding. Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

4.0 CONCLUSION

The Commission made a proposed determination that this amendment involves no significant hazards consideration which was published in the Federal Register (54 FR 7625) on February 22, 1989, and consulted with the State of North Carolina. No public comments or requests for hearing were received, and the State of North Carolina did not have any comments.

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: E. Tourigny

Dated: April 19, 1989

Mr. L. W. Eury  
Carolina Power & Light Company

Brunswick Steam Electric Plant  
Units 1 and 2

cc:

Mr. Russell B. Starkey, Jr.  
Project Manager  
Brunswick Nuclear Project  
P. O. Box 10429  
Southport, North Carolina 28461

Mr. J. L. Harness  
Plant General Manager  
Brunswick Steam Electric Plant  
P. O. Box 10429  
Southport, North Carolina 28461

Mr. R. E. Jones, General Counsel  
Carolina Power & Light Company  
P. O. Box 1551  
Raleigh, North Carolina 27602

Mr. H. A. Cole  
Special Deputy Attorney General  
State of North Carolina  
P. O. Box 629  
Raleigh, North Carolina 27602

Mr. Mark S. Calvert  
Associate General Counsel  
Carolina Power & Light Company  
P. O. Box 1551  
Raleigh, North Carolina 27602

Mr. Robert P. Gruber  
Executive Director  
Public Staff - NCUC  
P. O. Box 29520  
Raleigh, North Carolina 27626-0520

Ms. Grace Beasley  
Board of Commissioners  
P. O. Box 249  
Bolivia, North Carolina 28422

Mrs. Chrys Baggett  
State Clearinghouse  
Budget and Management  
116 West Jones Street  
Raleigh, North Carolina 27603

Resident Inspector  
U. S. Nuclear Regulatory Commission  
Star Route 1  
P. O. Box 208  
Southport, North Carolina 28461

Regional Administrator, Region II  
U. S. Nuclear Regulatory Commission  
101 Marietta Street, Suite 2900  
Atlanta, Georgia 30323

Mr. Dayne H. Brown, Chief  
Radiation Protection Branch  
Division of Facility Services  
N. C. Department of Human Resources  
701 Barbour Drive  
Raleigh, North Carolina 27603-2008

AMENDMENT NO. 127 TO FACILITY OPERATING LICENSE NO. DPR-71 - BRUNSWICK, UNIT 1  
AMENDMENT NO. 157 TO FACILITY OPERATING LICENSE NO. DPR-62 - BRUNSWICK, UNIT 2

Docket File

NRC PDR

Local PDR

PDII-1 Reading

G. Lainas (14E4)

E. Adensam

E. Reeves

P. Anderson

E. Tourigny

N. Le

L. Spessard (MNBB 3701)

OGC

D. Hagan (MNBB 3302)

E. Jordan (MNBB 3302)

B. Grimes (9A2)

T. Meeks (4) (P1-137)

W. Jones (P-130A)

E. Butcher (11F23)

ACRS (10)

GPA/PA

ARM/LFMB

cc: Licensee/Applicant Service List