

August 5, 1982

Docket Nos. 50-325  
and 50-324

Mr. J. A. Jones  
Senior Executive Vice President  
Carolina Power & Light Company  
P. O. Box 1551  
Raleigh, North Carolina 27602

Dear Mr. Jones:

The Commission has issued the enclosed Amendment Nos. 48 and 72 to Facility Operating License Nos. DPR-71 and DPR-62 for the Brunswick Steam Electric Plant, Units 1 and 2. The amendments consist of changes to the Technical Specifications in response to your submittals of November 13, 1980 and November 17, 1981. Certain modifications, as described in the enclosed Safety Evaluation have been made to your proposed Technical Specification revisions. These modifications have been discussed with and concurred in by, members of your staff.

These amendments change the Technical Specifications to provide surveillance requirements for Scram Discharge Volume (SDV) vent and drain values, and limiting conditions for operation and surveillance requirements for SDV limit switches.

A copy of the related Notice of Issuance is also enclosed.

Sincerely,

Domenic B. Vassallo, Chief  
Operating Reactors Branch #2  
Division of Licensing

Enclosures:

1. Amendment No. 48 to DPR-71
2. Amendment No. 72 to DPR-62
3. Safety Evaluation
4. Notice

cc w/enclosures:  
See next page

8208260367 820805  
PDR ADOCK 05000324  
P PDR

*Handwritten signature and date: [Signature] 8/5/82*

*Handwritten note: FR NOTICE + AMENDMENT*

OFFICE ▶	ORB #2	ORB #2	ORB #2	LEAD	OELD		
SURNAME ▶	Norris	Van Vliet	Vassallo	Lallas	McKARMAN		
DATE ▶	7/30/82	7/30/82	7/30/82	7/30/82			

Mr. J. A. Jones  
Carolina Power & Light Company

cc:

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

George F. Trowbridge, Esquire  
Shaw, Pittman, Potts & Trowbridge  
1800 M Street, N. W.  
Washington, D. C. 20036

Mr. Charles R. Dietz  
Plant Manager  
P. O. Box 458  
Southport, North Carolina 28461

Mr. Franky Thomas, Chairman  
Board of Commissioners  
P. O. Box 249  
Bolivia, North Carolina 28422

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

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

U. S. Environmental Protection Agency  
Region IV Office  
Regional Radiation Representative  
345 Courtland Street, N. W.  
Atlanta, Georgia 30308

Resident Inspector  
U. S. Nuclear Regulatory Commission  
P. O. Box 1057  
Southport, North Carolina 28461

James P. O'Reilly  
Regional Administrator, Region II  
U.S. Nuclear Regulatory Commission  
101 Marietta Street, Suite 3100  
Atlanta, Georgia 30303



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. 48  
License No. DPR-71

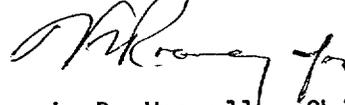
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Carolina Power & Light Company dated November 13, 1980, with supplement dated November 17, 1981, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the 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. 48, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION



Domenic B. Vassallo, Chief  
Operating Reactors Branch #2  
Division of Licensing

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: August 5, 1982

ATTACHMENT TO LICENSE AMENDMENT NO. 48

FACILITY OPERATING LICENSE NO. DPR-71

DOCKET NO. 50-325

Remove the following pages and replace with identically numbered pages.

3/4	1-3
3/4	1-4
3/4	3-40
3/4	3-41
3/4	3-42
3/4	3-43

Add

3/4	3-43a
-----	-------

REACTIVITY CONTROL SYSTEMS

3/4.1.3 CONTROL RODS

CONTROL ROD OPERABILITY

LIMITING CONDITION FOR OPERATION

---

3.1.3.1 All control rods shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

- a. With one control inoperable due to being immovable, as a result of excessive friction or mechanical interference, or known to be untrippable:
  1. Within one hour:
    - a) Verify that the inoperable control rod, if withdrawn, is separated from all other inoperable control rods by at least two control cells in all directions.
    - b) Disarm the associated directional control valves hydraulically by closing the insert and withdraw isolation valves.
  2. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.
  3. Restore the inoperable control rod to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.
- b. With one or more control rods inoperable for causes other than addressed in ACTION a, above:
  1. If the inoperable control rod(s) is withdrawn, within one hour:
    - a) Verify that the inoperable withdrawn control rod(s) is separated from all other inoperable control rods by at least two control cells in all directions, and
    - b) Demonstrate the insertion capability of the inoperable withdrawn control rod(s) by inserting the control rod(s) at least one notch by drive water pressure within the normal operating range\*, or
    - c) Fully insert the inoperable withdrawn control rod(s) and disarm the associated directional control valves either:
      - 1) Electrically, or
      - 2) Hydraulically by closing the drive water and exhaust water isolation valves.

\*The inoperable control rod may then be withdrawn to a position no further withdrawn than its position when found to be inoperable.

## REACTIVITY CONTROL SYSTEMS

### LIMITING CONDITION FOR OPERATION (Continued)

#### ACTION: (Continued)

2. If the inoperable control rod(s) is inserted:
  - a) Within one hour disarm the associated directional control valves either:
    - 1) Electrically, or
    - 2) Hydraulically by closing the drive water and exhaust water isolation valves.
  - b) Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.
- c. With more than 8 control rods inoperable, be in at least HOT SHUTDOWN within 12 hours.

#### SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The scram discharge volume drain and vent valves shall be demonstrated OPERABLE at least once per 31 days by:\*

- a. Verifying each valve to be open.
- b. Cycling each valve at least one complete cycle of full travel.

4.1.3.1.2 All withdrawn control rods not required to have their directional control valves disarmed electrically or hydraulically shall be demonstrated OPERABLE by moving each control rod at least one notch:

- a. At least once per 7 days when above the preset power level of the RWM and RSCS, and
- b. At least once per 24 hours when above the preset power level of the RWM and RSCS and any control rod is immovable as a result of excessive friction or mechanical interference.

4.1.3.1.3 All withdrawn control rods shall be determined OPERABLE by demonstrating the scram discharge volume drain and vent valves OPERABLE when control rods are scram tested per Specification 4.1.3.2, by verifying that the drain and vent valves:

- a. Close within 30 seconds after receipt of a signal for control rods to scram, and
- b. Open when the scram signal is reset or the scram discharge volume trip is bypassed.

---

\*These valves may be closed intermittently for testing under administrative control.

TABLE 3.3.4-1

CONTROL ROD WITHDRAWAL BLOCK INSTRUMENTATION

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>MINIMUM NUMBER OF OPERABLE CHANNELS PER TRIP SYSTEM(a)</u>	<u>APPLICABLE OPERATIONAL CONDITIONS</u>
1. <u>APRM</u> (C51-APRM-CH.A,B,C,D,E,F)		
a. Upscale (Flow Biased)	2	1
b. Inoperative	2	1, 2, 5
c. Downscale	2	1
d. Upscale (Fixed)	2	2, 5
2. <u>ROD BLOCK MONITOR</u> (C51-RBM-CH.A,B)		
a. Upscale	1	1*
b. Inoperative	1	1*
c. Downscale	1	1*
3. <u>SOURCE RANGE MONITORS</u> (C51-SRM-K600A,B,C,D)		
a. Detector not full in (b)	1	2, 5
b. Upscale <sup>(c)</sup>	1	2, 5
c. Inoperative <sup>(c)</sup>	1	2, 5
d. Downscale <sup>(b)</sup>	1	2, 5
4. <u>INTERMEDIATE RANGE MONITORS</u> <sup>(d)</sup> (C51-IRM-K601A,B,C,D,E,F,G,H)		
a. Detector not full in (e)	2	2, 5
b. Upscale	2	2, 5
c. Inoperable	2	2, 5
d. Downscale <sup>(e)</sup>	2	2
5. <u>SCRAM DISCHARGE VOLUME</u>		
a. Water Level - High	1#	1, 2, 5**

TABLE 3.3.4-1 (Continued)

CONTROL ROD WITHDRAWAL BLOCK INSTRUMENTATION

NOTE

- a. The minimum number of OPERABLE CHANNELS may be reduced by one for up to 2 hours in one of the trip systems for maintenance and/or testing except for Rod Block Monitor function.
- b. This function is bypassed if detector is reading >100 cps or the IRM channels are on range 3 or higher.
- c. This function is bypassed when the associated IRM channels are on range 8 or higher.
- d. A total of 6 IRM instruments must be OPERABLE.
- e. This function is bypassed when the IRM channels are on range 1.
- \* When THERMAL POWER exceeds the preset power level of the RWM and RSCS.
- \*\* With any control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.
- # This signal is contained in the Channel A logic only.

TABLE 3.3.4-2

CONTROL ROD WITHDRAWAL BLOCK INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
1. <u>APRM</u> (C51-APRM-CH. A,B,C,D,E,F)		
a. Upscale (Flow Biased)	$\underline{< (0.66W + 42\%) \frac{T^*}{MTPF}}$	$\underline{< (0.66W + 42\%) \frac{T^*}{MTPF}}$
b. Inoperative	NA	NA
c. Downscale	$\underline{> 3/125 \text{ of full scale}}$	$\underline{> 3/125 \text{ of full scale}}$
d. Upscale (Fixed)	$\underline{< 12\% \text{ of RATED THERMAL POWER}}$	$\underline{< 12\% \text{ of RATED THERMAL POWER}}$
2. <u>ROD BLOCK MONITOR</u> (C51-RBM-CH.A,B)		
a. Upscale	$\underline{< (0.66W + 41\%) \frac{T^*}{MTPF}}$	$\underline{< (0.66W + 41\%) \frac{T^*}{MTPF}}$
b. Inoperative	NA	NA
c. Downscale	$\underline{> 3/125 \text{ of full scale}}$	$\underline{> 3/125 \text{ of full scale}}$
3. <u>SOURCE RANGE MONITORS</u> (C51-SRM-K600A,B,C,D)		
a. Detector not full in	NA	NA
b. Upscale	$\underline{< 1 \times 10^5 \text{ cps}}$	$\underline{< 1 \times 10^5 \text{ cps}}$
c. Inoperative	NA	NA
d. Downscale	$\underline{> 3 \text{ cps}}$	$\underline{> 3 \text{ cps}}$
4. <u>INTERMEDIATE RANGE MONITORS</u> (C51-IRM-K601A,B,C,D,E,F,G,H)		
a. Detector not full in	NA	NA
b. Upscale	$\underline{< 108/125 \text{ of full scale}}$	$\underline{< 108/125 \text{ of full scale}}$
c. Inoperative	NA	NA
d. Downscale	$\underline{> 3/125 \text{ of full scale}}$	$\underline{> 3/125 \text{ of full scale}}$
5. <u>SCRAM DISCHARGE VOLUME</u>		
a. Water Level High	$\underline{< 73 \text{ gallons}}$	$\underline{< 73 \text{ gallons}}$

\*T=2.43 for 8x8 fuel  
T=2.48 for 8x8R fuel  
T=2.48 for P8x8R fuel

TABLE 4.3.4-1

CONTROL ROD WITHDRAWAL BLOCK INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>CHANNEL CHECK</u>	<u>FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>	<u>OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED</u>
1. <u>APRM</u> (C51-APRM-CH.A,B,C,D,E,F)				
a. Upscale (Flow Biased)	NA	S/U <sup>(c)</sup> ,M	R <sup>(b)(a)</sup>	1
b. Inoperative	NA	S/U <sup>(c)</sup> ,Q	NA	1, 2, 5
c. Downscale	NA	S/U <sup>(c)</sup> ,M	NA	1
d. Upscale (Fixed)	NA	S/U <sup>(c)</sup> ,O	R <sup>(a)</sup>	2, 5
2. <u>ROD BLOCK MONITOR</u> (C51-RBM-CH.A,B)				
a. Upscale	NA	S/U <sup>(c)</sup> ,M	R <sup>(a)</sup>	1*
b. Inoperative	NA	S/U <sup>(c)</sup> ,Q	NA	1*
c. Downscale	NA	S/U <sup>(c)</sup> ,M	R <sup>(a)</sup>	1*
3. <u>SOURCE RANGE MONITORS</u> (C51-SRM-K600A,B,C,D)				
a. Detector not full in	NA	S/U <sup>(c)</sup> ,W	NA	2, 5
b. Upscale	NA	S/U <sup>(c)</sup> ,W	NA	2, 5
c. Inoperative	NA	S/U <sup>(c)</sup> ,W	NA	2, 5
d. Downscale	NA	S/U <sup>(c)</sup> ,W	NA	2, 5
4. <u>INTERMEDIATE RANGE MONITORS</u> (C51-IRM-K601A,B,C,D,E,F,G,H)				
a. Detector not full in	NA	S/U <sup>(c)</sup> ,W <sup>(d)</sup>	NA	2
	NA	W	NA	5
b. Upscale	NA	S/U <sup>(c)</sup> ,W <sup>(d)</sup>	NA	2
	NA	W	NA	5
c. Inoperative	NA	S/U <sup>(c)</sup> ,W <sup>(d)</sup>	NA	2
	NA	W	NA	5
d. Downscale	NA	S/U <sup>(c)</sup> ,W <sup>(d)</sup>	NA	2
	NA	W	NA	5

TABLE 4.3.4-1 (Cont'd)

CONTROL ROD WITHDRAWAL BLOCK INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION<sup>(a)</sup></u>	<u>OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED</u>
5. <u>SCRAM DISCHARGE VOLUME</u>				
a. Water Level - High	NA	Q	R	1, 2, 5**

a. CHANNEL CALIBRATIONS are electronic.

b. This calibration shall consist of the adjustment of the APRM flow biased setpoint to conform to a calibrated flow signal.

c. Within 24 hours prior to startup, if not performed within the previous 7 days.

d. When changing from CONDITION 1 to CONDITION 2, perform the required surveillance within 12 hours after entering CONDITION 2.

\* When THERMAL POWER is greater than the preset power level of the RWM and RSCS.

\*\* With any control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.



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

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-324

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 72  
License No. DPR-62

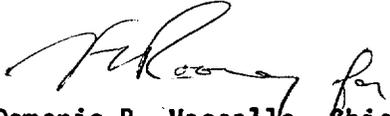
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Carolina Power & Light Company dated November 13, 1980, with supplement dated November 17, 1981, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the 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. 72, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION

  
Domenic B. Vassallo, Chief  
Operating Reactors Branch #2  
Division of Licensing

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: August 5, 1982

ATTACHMENT TO LICENSE AMENDMENT NO. 72

FACILITY OPERATING LICENSE NO. DPR-62

DOCKET NO. 50-324

Remove the following pages and replace with identically numbered pages.

3/4 1-3

3/4 1-4

3/4 3-40

3/4 3-41

3/4 3-42

3/4 3-43

Add 3/4 3-43a

REACTIVITY CONTROL SYSTEMS

3/4.1.3 CONTROL RODS

CONTROL ROD OPERABILITY

LIMITING CONDITION FOR OPERATION

---

3.1.3.1 All control rods shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

- a. With one control rod inoperable due to being immovable, as a result of excessive friction or mechanical interference, or known to be untrippable:
  1. Within one hour:
    - a) Verify that the inoperable control rod, if withdrawn, is separated from all other inoperable control rods by at least two control cells in all directions.
    - b) Disarm the associated directional control valves hydraulically by closing the insert and withdraw isolation valves.
  2. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.
  3. Restore the inoperable control rod to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.
- b. With one or more control rods inoperable for causes other than addressed in ACTION a, above:
  1. If the inoperable control rod(s) is withdrawn, within one hour:
    - a) Verify that the inoperable withdrawn control rod(s) is separated from all other inoperable control rods by at least two control cells in all directions, and
    - b) Demonstrate the insertion capability of the inoperable withdrawn control rod(s) by inserting the control rod(s) at least one notch by drive water pressure within the normal operating range\*, or
    - c) Fully insert the inoperable withdrawn control rod(s) and disarm the associated directional control valves either:
      - 1) Electrically, or
      - 2) Hydraulically by closing the drive water and exhaust water isolation valves.

---

\*The inoperable control rod may then be withdrawn to a position no further withdrawn than its position when found to be inoperable.

REACTIVITY CONTROL SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

2. If the inoperable control rod(s) is inserted:
  - a) Within one hour disarm the associated directional control valves either:
    - 1) Electrically, or
    - 2) Hydraulically by closing the drive water and exhaust water isolation valves.
  - b) Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.
- c. With more than 8 control rods inoperable, be in at least HOT SHUTDOWN within 12 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The scram discharge volume drain and vent valves shall be demonstrated OPERABLE at least once per 31 days by:\*

- a. Verifying each valve to be open.
- b. Cycling each valve at least one complete cycle of full travel.

4.1.3.1.2 All withdrawn control rods not required to have their directional control valves disarmed electrically or hydraulically shall be demonstrated OPERABLE by moving each control rod at least one notch:

- a. At least once per 7 days when above the preset power level of the RWM and RSCS, and
- b. At least once per 24 hours when above the preset power level of the RWM and RSCS and any control rod is immovable as a result of excessive friction or mechanical interference.

4.1.3.1.3 All withdrawn control rods shall be determined OPERABLE by demonstrating the scram discharge volume drain and vent valves OPERABLE, when control rods are scram tested per Specification 4.1.3.2, by verifying that the drain and vent valves:

- a. Close within 30 seconds after receipt of a signal for control rods to scram, and
- b. Open when the scram signal is reset or the scram discharge volume trip is bypassed.

\*These valves may be closed intermittently for testing under administrative control.

TABLE 3.3.4-1

CONTROL ROD WITHDRAWAL BLOCK INSTRUMENTATION

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>MINIMUM NUMBER OF OPERABLE CHANNELS PER TRIP SYSTEM<sup>(a)</sup></u>	<u>APPLICABLE OPERATIONAL CONDITIONS</u>
1. <u>APRM</u> (C51-APRM-CH.A,B,C,D,E,F)		
a. Upscale (Flow Biased)	2	1
b. Inoperative	2	1, 2, 5
c. Downscale	2	1
d. Upscale (Fixed)	2	2, 5
2. <u>ROD BLOCK MONITOR</u> (C51-RBM-CH.A,B)		
a. Upscale	1	1*
b. Inoperative	1	1*
c. Downscale	1	1*
3. <u>SOURCE RANGE MONITORS</u> (C51-SRM-K600A,B,C,D)		
a. Detector not full in <sup>(b)</sup>	1	2, 5
b. Upscale <sup>(c)</sup>	1	2, 5
c. Inoperative <sup>(c)</sup>	1	2, 5
d. Downscale <sup>(b)</sup>	1	2, 5
4. <u>INTERMEDIATE RANGE MONITORS</u> <sup>(d)</sup> (C51-IRM-K601A,B,C,D,E,F,G,H)		
a. Detector not full in <sup>(e)</sup>	2	2, 5
b. Upscale	2	2, 5
c. Inoperable	2	2, 5
d. Downscale <sup>(b)</sup>	2	2, 5
5. <u>SCRAM DISCHARGE VOLUME</u>		
a. Water Level - High	1#	1, 2, 5**

TABLE 3.3.4-1 (Continued)

CONTROL ROD WITHDRAWAL BLOCK INSTRUMENTATION

NOTE

- a. The minimum number of OPERABLE CHANNELS may be reduced by one for up to 2 hours in one of the trip systems for maintenance and/or testing except for Rod Block Monitor function.
- b. This function is bypassed if detector is reading >100 cps or the IRM channels are on range 3 or higher.
- c. This function is bypassed when the associated IRM channels are on range 8 or higher.
- d. A total of 6 IRM instruments must be OPERABLE.
- e. This function is bypassed when the IRM channels are on range 1.
- \* This function is bypassed when the IRM channels are on range 1.
- \*\* With any control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.
- # This signal is contained in the Channel A logic only.

TABLE 3.3.4-2

CONTROL ROD WITHDRAWAL BLOCK INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
1. <u>APRM (C51-APRM-CH.A,B,C,D,E,F)</u>		
a. Upscale (Flow Biased)	$\leq (0.66 W + 42\%) \frac{T^*}{MTPF}$	$\leq (0.66 W + 42\%) \frac{T^*}{MTPF}$
b. Inoperative	NA	NA
c. Downscale	$> 3/125$ of full scale	$> 3/125$ of full scale
d. Upscale (Fixed)	$\leq 12\%$ of RATED THERMAL POWER	$\leq 12\%$ of RATED THERMAL POWER
2. <u>ROD BLOCK MONITOR (C51-RBM-CH.A,B)</u>		
a. Upscale	$\leq (0.66 W + 39\%) \frac{T^*}{MTPF}$	$\leq (0.66 W + 39\%) \frac{T^*}{MTPF}$
b. Inoperative	NA	NA
c. Downscale	$> 3/125$ of full scale	$> 3/125$ of full scale
3. <u>SOURCE RANGE MONITORS (C51-SRM-K600A,B,C,D)</u>		
a. Detector not full in	NA	NA
b. Upscale	$\leq 1 \times 10^5$ cps	$\leq 1 \times 10^5$ cps
c. Inoperative	NA	NA
d. Downscale	$> 3$ cps	$> 3$ cps
4. <u>INTERMEDIATE RANGE MONITORS (C51-IRM-K601A,B,C,D,E,F,G,H)</u>		
a. Detector not full in	NA	NA
b. Upscale	$\leq 108/125$ of full scale	$\leq 108/125$ of full scale
c. Inoperative	NA	NA
d. Downscale	$> 3/125$ of full scale	$> 3/125$ of full scale
5. <u>SCRAM DISCHARGE VOLUME</u>		
a. Water Level High	$\leq 73$ gallons	$\leq 73$ gallons

\*T=2.60 for 7 x 7 fuel.  
T=2.45 for 8 x 8 fuel.  
T=2.48 for 8 x 8R fuel.  
T=2.48 for P8 x 8R fuel.

TABLE 4.3.4-1

CONTROL ROD WITHDRAWAL BLOCK INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>	<u>OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED</u>
1. <u>APRM (C51-APRM-CH.A,B,C,D,E,F)</u>				
a. Upscale (Flow Biased)	NA	S/U <sup>(c)</sup> , M	R <sup>(b)(a)</sup>	1
b. Inoperative	NA	S/U <sup>(c)</sup> , Q	NA	1, 2, 5
c. Downscale	NA	S/U <sup>(c)</sup> , M	NA	1
d. Upscale (Fixed)	NA	S/U <sup>(c)</sup> , Q	R <sup>(a)</sup>	2, 5
2. <u>ROD BLOCK MONITOR (C51-RBM-CH.A,B)</u>				
a. Upscale	NA	S/U <sup>(c)</sup> , M	R <sup>(a)</sup>	1*
b. Inoperative	NA	S/U <sup>(c)</sup> , Q	NA	1*
c. Downscale	NA	S/U <sup>(c)</sup> , M	R <sup>(a)</sup>	1*
3. <u>SOURCE RANGE MONITORS (C51-SRM-K600A,B,C,D)</u>				
a. Detector not full in	NA	S/U <sup>(c)</sup> , W	NA	2, 5
b. Upscale	NA	S/U <sup>(c)</sup> , W	NA	2, 5
c. Inoperative	NA	S/U <sup>(c)</sup> , W	NA	2, 5
d. Downscale	NA	S/U <sup>(c)</sup> , W	NA	2, 5
4. <u>INTERMEDIATE RANGE MONITORS (C51-IRM-K601A,B,C,D,E,F,G,H)</u>				
a. Detector not full in	NA	S/U <sup>(c)</sup> , W <sup>(d)</sup>	NA	2
	NA	W	NA	5
b. Upscale	NA	S/U <sup>(c)</sup> , W <sup>(d)</sup>	NA	2
	NA	W	NA	5
c. Inoperative	NA	S/U <sup>(c)</sup> , W <sup>(d)</sup>	NA	2
	NA	W	NA	5
d. Downscale	NA	S/U <sup>(c)</sup> , W <sup>(d)</sup>	NA	2
	NA	W	NA	5

TABLE 4.3.4-1 (Cont'd)

CONTROL ROD WITHDRAWAL BLOCK INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>	<u>OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED</u>
5. <u>SCRAM DISCHARGE VOLUME</u>				
a. Water Level - High	NA	Q	R	1, 2, 5**

- a. CHANNEL CALIBRATIONS are electronic.
  - b. This calibration shall consist of the adjustment of the APRM flow biased setpoint to conform to a calibrated flow signal.
  - c. Within 24 hours prior to startup, if not performed within the previous 7 days.
  - d. When changing from CONDITION 1 to CONDITION 2, perform the required surveillance within 12 hours after entering CONDITION 2.
- \* When THERMAL POWER is greater than the preset power level of the RWM and RSCS.
- \*\* With any control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 48. TO FACILITY LICENSE NO. DPR-71 AND  
AMENDMENT NO. 72 TO FACILITY LICENSE NO. DPR-62  
CAROLINA POWER & LIGHT COMPANY  
BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2  
DOCKET NOS. 50-325 AND 50-324

Author: Kenneth T. Eccleston

1.0 Introduction

As a result of events involving common cause failures of scram discharge volume (SDV) limit switches and SDV drain valve operability, the NRC staff issued IE Bulletin 80-14 on June 12, 1980. In addition, the staff sent a letter dated July 7, 1980 to all operating BWR licensees requesting that they propose Technical Specification changes to provide surveillance requirements for SDV vent and drain valves and limiting conditions for operation (LCO) surveillance requirements on SDV limit switches. Model Technical Specifications were enclosed with the July 7 letter to provide guidance to licensees for preparation of the submittals.

2.0 Evaluation

The enclosed report (TER-C5506-77/75) was prepared by Franklin Research Center (FRC) as part of a technical assistance contract program. The FRC report provides FRC's technical evaluation of the compliance of Carolina Power & Light Company's (licensee) submittal with NRC provided criteria.

FRC has concluded that the licensee's response does not meet the explicit requirements of paragraph 3.3-6 and Table 3.3.6-1 of the Model Technical Specifications. However, the FRC report concludes that technical bases are defined on p.50 of the staff's "Generic Safety Evaluation Report BWR Scram Discharge System," dated December 1, 1980 that permit consideration of this departure from the explicit requirements of the Model Technical Specifications. We conclude that these technical bases justify a deviation from the explicit requirements of the Model Technical Specifications.

In addition, FRC has also concluded that the proposed Brunswick Units 1 and 2 Technical Specifications do not meet the Model Technical Specifications requirements of paragraph 4.3.1.1 and Table 4.3.1.1-1 for SDV water level high channel functional test requirements. However, the FRC TER concludes that the proposed surveillance requirements for SDV water level high are acceptable, since the licensee is installing a second instrument volume at each unit and the licensee is providing four reactor protection system (RPS) level instruments for each of the two instrument volumes, for a total of eight instruments for the

RPS. The model Technical Specifications were developed for plants which have only one instrument volume (four level instruments); therefore, the second instrument volume significantly improves the design and reliability of the SDV. Taking this into account, we conclude that these technical bases justify a deviation from the explicit requirements of the Model Technical Specifications.

FRC has concluded that the licensee's proposed Technical Specifications revisions (as modified by subsequent discussions with the licensee) meet our criteria without need for further revision.

### 3.0 Summary

Based upon a review of the contractor's evaluation report, we conclude that the licensee's proposed Technical Specifications satisfy the requirements for surveillance of SDV vent and drain valves and for LCOs and surveillance requirements for SDV level instrumentation. Consequently, we find the licensee's proposed Technical Specifications acceptable.

### 4.0 Environmental Considerations

We have determined that the amendments do 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 the amendments involve 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, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

### 5.0 Conclusions

We have concluded, based on the considerations discussed above, that: (1) because the amendments do not involve a significant increase in the probability or consequences of an accident previously evaluated, do not create the possibility of an accident of a type different from any evaluated previously, and do not involve a significant reduction in a margin of safety, the amendments do 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 the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Enclosure:  
FRC Report (TER-C5506-77/75)

Date: August 5, 1982

7550-01

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NOS. 50-325 AND 50-324

CAROLINA POWER & LIGHT COMPANY

NOTICE OF ISSUANCE OF AMENDMENTS TO FACILITY  
OPERATING LICENSES

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment Nos. 48 and 72 to Facility Operating License Nos. DPR-71 and DPR-62 issued to Carolina Power & Light Company (the licensee) which revised the Technical Specifications for operation of the Brunswick Steam Electric Plant, Units 1 and 2 (the facility), located in Brunswick County, North Carolina. The amendments are effective as of the date of issuance.

The amendments revise the Technical Specifications to provide surveillance requirements and limiting conditions for operation for certain scram discharge volume components.

The application for the amendments 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 amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of these amendments will not result in any significant environmental impact and that pursuant to 10 CFR Section 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 amendments.

- 2 -

For further details with respect to this action, see (1) the application for amendments dated November 13, 1980 with supplement dated November 17, 1981 (2) Amendment Nos. 48 and 72 to License Nos. DPR-71 and DPR-62, 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. 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, C.C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 5 day of August, 1982.

FOR THE NUCLEAR REGULATORY COMMISSION



Vernon L. Rooney, Acting Chief  
Operating Reactors Branch #2  
Division of Licensing