

June 12, 1989

Docket Nos. 50-325  
and 50-324

DISTRIBUTION  
See attached list

Mr. Lynn W. 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. 132 TO FACILITY OPERATING LICENSE NO. DPR-71  
AND AMENDMENT NO. 162 TO FACILITY OPERATING LICENSE NO. DPR-62 -  
BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2, REGARDING  
CONTAINMENT ISOLATION DEPENDABILITY (TAC NOS. 71110/71111)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 132 to Facility Operating License No. DPR-71 and Amendment No. 162 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 (TS) in response to your submittal dated September 27, 1988, as supplemented May 24, 1988.

The amendments change the TS to: (1) revise TS Section 3/4.3.2 to include Limiting Conditions for Operation and Surveillance Requirements to ensure the capability of the main stack monitor signal circuitry to isolate containment purge and vent valves, and (2) revise pages affected by the above proposed TS changes as necessary to correct editorial errors and to conform to other formatting requirements.

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:  
Ngoc B. Le, Project Manager  
Project Directorate II-1  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 132 to License No. DPR-71
2. Amendment No. 162 to License No. DPR-62
3. Safety Evaluation

cc w/enclosures:  
See next page

[BSEP AMEND 71110/71111]

LA:PDII-1  
PAnderson  
06/1/89

PM:PDII-1  
RLG:bd  
06/1/89

D:PDII-1  
EAdensam  
06/1/89

DF01  
1/1  
*[Handwritten signatures]*

8906200066 890612  
PDR ADOCK 05000324  
P PNU

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

Brunswick Steam Electric Plant  
Units 1 and 2

cc:

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Raleigh, North Carolina 27603-2008



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. 132  
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 September 27, 1988, 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:

8906200070 890612  
PDR ADOCK 05000324  
P PNU

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 132, 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

Original Signed By:

Elinor G. Adensam 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: June 12, 1989

OFC	:LA:PD21:DRPR:PM:PD21:DRPR:NR:PRPB	:OGC	LNZ	:D:PD21:DRPR	:	:
NAME	:PAnderson	:NLe:bd	:JCunringham	:SH Lewis	:EAdensam	PLW
DATE	:4/10/89	:4/6/89	:4/10/89	:4/17/89	:4/1/89	:

ATTACHMENT TO LICENSE AMENDMENT NO. 132

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

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3/4 3-18  
3/4 3-22  
3/4 3-23  
3/4 3-27

Insert Pages

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3/4 3-17  
3/4 3-18  
3/4 3-22  
3/4 3-23  
3/4 3-27

TABLE 3.3.2-1

ISOLATION ACTUATION INSTRUMENTATION

<u>TRIP FUNCTION</u>	<u>VALVE GROUPS OPERATED BY SIGNAL(a)</u>	<u>MINIMUM NUMBER OPERABLE CHANNELS PER TRIP SYSTEM(b)(c)</u>	<u>APPLICABLE OPERATIONAL CONDITION</u>	<u>ACTION</u>
<b>1. <u>PRIMARY CONTAINMENT ISOLATION</u></b>				
a. Reactor Vessel Water Level -				
1. Low, Level 1	2, 6, 7, 8	2	1, 2, 3	20
2. Low, Level 2	3	2	1, 2, 3	20
3. Low, Level 3	1	2	1, 2, 3	20
b. Drywell Pressure - High	2, 6, 7	2	1, 2, 3	20
c. Main Steam Line				
1. Radiation - High	1	2	1, 2, 3	21
2. Pressure - Low	1	2	1	22
3. Flow - High	1	2/line	1	22
d. Main Steam Line Tunnel Temperature - High	1	2 <sup>(d)</sup>	1, 2, 3	21
e. Condenser Vacuum - Low	1	2	1, 2 <sup>(e)</sup>	21
f. Turbine Building Area Temperature - High	1	4 <sup>(d)</sup>	1, 2, 3	21
g. Main Stack Radiation - High	(h)	1	1, 2, 3	28

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

ACTIONS

- ACTION 20 - Be in at least HOT SHUTDOWN within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- ACTION 21 - Be in at least STARTUP with the main steam line isolation valves closed within 2 hours or be in at least HOT SHUTDOWN within 6 hours and in COLD SHUTDOWN within the next 30 hours.
- ACTION 22 - Be in at least STARTUP within 2 hours.
- ACTION 23 - Establish SECONDARY CONTAINMENT INTEGRITY with the standby gas treatment system operating within one hour.
- ACTION 24 - Isolate the reactor water cleanup system.
- ACTION 25 - Close the affected system isolation valves and declare the affected system inoperable.
- ACTION 26 - Verify power availability to the bus at least once per 12 hours.
- ACTION 27 - Deactivate the shutdown cooling supply and reactor vessel head spray isolation valves in the closed position until the reactor steam dome pressure is within the specified limits.
- ACTION 28 - Close the affected isolation valves within 14 days or be in HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the following 24 hours.

NOTES

- \* When handling irradiated fuel in the secondary containment.
- (a) See Specification 3.6.3.1, Table 3.6.3.1-1 for valves in each valve group.
- (b) A channel may be placed in an inoperable status for up to 2 hours for required surveillance without placing the trip system in the tripped condition provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.
- (c) With only one channel per trip system, an inoperable channel need not be placed in the tripped condition where this would cause the Trip Function to occur. In these cases, the inoperable channel shall be restored to OPERABLE status within 2 hours or the ACTION required by Table 3.3.2-1 for that Trip Function shall be taken.
- (d) A channel is OPERABLE if 2 of 4 instruments in that channel are OPERABLE.
- (e) With reactor steam pressure  $\geq$  500 psig.
- (f) Closes only RWCU outlet isolation valve.
- (g) Alarm only.
- (h) Isolates containment purge and vent valves.

TABLE 3.3.2-2 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
<b>1. <u>PRIMARY CONTAINMENT ISOLATION</u></b>		
a. Reactor Vessel Water Level -		
1. Low Level 1	$\geq +162.5$ inches <sup>(a)</sup>	$\geq + 162.5$ inches <sup>(a)</sup>
2. Low Level 2	$\geq + 112$ inches <sup>(a)</sup>	$\geq + 112$ inches <sup>(a)</sup>
3. Low Level 3	$\geq + 2.5$ inches <sup>(a)</sup>	$\geq + 2.5$ inches <sup>(a)</sup>
b. Drywell Pressure - High	$\leq 2$ psig	$\leq 2$ psig
c. Main Steam Line		
1. Radiation - High	$< 3$ x full power background	$< 3.5$ x full power background
2. Pressure - Low	$\geq 825$ psig	$\geq 825$ psig
3. Flow - High	$\leq 140\%$ of rated flow	$\leq 140\%$ of rated flow
d. Main Steam Line Tunnel Temperature - High	$\leq 200^{\circ}\text{F}$	$\leq 200^{\circ}\text{F}$
e. Condenser Vacuum - Low	$\geq 7$ inches Hg vacuum	$\geq 7$ inches Hg vacuum
f. Turbine Building Area Temp - High	$\leq 200^{\circ}\text{F}$	$\leq 200^{\circ}\text{F}$
g. Main Stack Radiation - High	(b)	(b)

TABLE 3.3.2-2 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
5. <u>SHUTDOWN COOLING SYSTEM ISOLATION</u>		
a. Reactor Vessel Water Level - Low Level 1	$\geq 162.5$ inches <sup>(a)</sup>	$\geq 162.5$ inches <sup>(a)</sup>
b. Reactor Steam Dome Pressure - High	$\leq 140$ psig	$\leq 140$ psig

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(a) Vessel water levels refer to REFERENCE LEVEL ZERO.

(b) Establish alarm/trip setpoints per the methodology contained in the OFFSITE DOSE CALCULATION MANUAL (ODCM).

TABLE 3.3.2-3

ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

<u>TRIP FUNCTION</u>	<u>RESPONSE TIME (Seconds)<sup>(e)</sup></u>
<u>1. PRIMARY CONTAINMENT ISOLATION</u>	
a. Reactor Vessel Water Level -	
1. Low, Level 1	≤13
2. Low, Level 2	≤1.0 <sup>(d)</sup>
3. Low, Level 3	≤1.0 <sup>(d)</sup>
b. Drywell Pressure - High	≤13
c. Main Steam Line	
1. Radiation - High <sup>(b)</sup>	≤1.0 <sup>(d)</sup>
2. Pressure - Low	≤13
3. Flow - High	≤0.5 <sup>(d)</sup>
d. Main Steam Line Tunnel Temperature - High	≤13
e. Condenser Vacuum - Low	≤13
f. Turbine Building Area Temperature - High	NA
g. Main Stack Radiation - High <sup>(b)</sup>	≤ 1.0 <sup>(d)</sup>
<u>2. SECONDARY CONTAINMENT ISOLATION</u>	
a. Reactor Building Exhaust Radiation - High <sup>(b)</sup>	≤13
b. Drywell Pressure - High	≤13
c. Reactor Vessel Water Level - Low, Level 2	≤1.0 <sup>(d)</sup>
<u>3. REACTOR WATER CLEANUP SYSTEM ISOLATION</u>	
a. Δ Flow - High	≤13
b. Area Temperature - High	≤13
c. Area Ventilation Temperature ΔT - High	≤13
d. SLCS Initiation	NA
e. Reactor Vessel Water Level - Low, Level 2	≤1.0 <sup>(d)</sup>

TABLE 4.3.2-1

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>TRIP FUNCTION</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>	<u>OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED</u>
<b>1. PRIMARY CONTAINMENT ISOLATION</b>				
<b>a. Reactor Vessel Water Level -</b>				
1. Low, Level 1				
Transmitter:	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1, 2, 3
Trip Logic:	D	M	M	1, 2, 3
2. Low, Level 2				
Transmitter:	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1, 2, 3
Trip Logic:	D	M	M	1, 2, 3
3. Low, Level 3				
Transmitter:	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1, 2, 3
Trip Logic:	D	M	M	1, 2, 3
<b>b. Drywell Pressure - High</b>				
Transmitter:	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1, 2, 3
Trip Logic:	D	M	M	1, 2, 3
<b>c. Main Steam Line</b>				
1. Radiation - High	D	W	R <sup>(d)</sup>	1, 2, 3
2. Pressure - Low				
Transmitter:	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1
Trip Logic:	D	M	M	1
3. Flow - High				
Transmitter:	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1
Trip Logic:	D	M	M	1
<b>d. Main Steam Line Tunnel Temperature - High</b>				
	NA	M	R	1, 2, 3
<b>e. Condenser Vacuum - Low</b>				
Transmitter:	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1, 2 <sup>(e)</sup>
Trip Logic:	D	M	M	1, 2 <sup>(e)</sup>
<b>f. Turbine Building Area Temp-High</b>				
	NA	M	R	1, 2, 3
<b>g. Main Stack Radiation - High</b>				
	NA	Q	R	1, 2, 3



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. 162  
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 September 27, 1988, 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. 162, 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

Original Signed By:

Elinor G. Adensam, 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: June 12, 1989

OFC	:LA:PD21:DRPR:	PM:PD21:DRPR:	NRB:DRPR:	OGC	:D:PD21:DRPR:	:	:
NAME	: PAnderson	: NLe:bd	: JCunningham	: SHLewis	: EAdensam	:	:
DATE	:04/6/89	:04/6/89	:04/6/89	:04/17/89	:04/17/89	:	:

ATTACHMENT TO LICENSE AMENDMENT NO. 162

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.

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TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

<u>TRIP FUNCTION</u>	<u>VALVE GROUPS OPERATED BY SIGNAL(a)</u>	<u>MINIMUM NUMBER OPERABLE CHANNELS PER TRIP SYSTEM(b)(c)</u>	<u>APPLICABLE OPERATIONAL CONDITION</u>	<u>ACTION</u>
<b>1. <u>PRIMARY CONTAINMENT ISOLATION</u></b>				
a. Reactor Vessel Water Level -				
1. Low, Level 1	2, 6, 7, 8	2	1, 2, 3	20
2. Low, Level 2	3	2	1, 2, 3	20
3. Low, Level 3	1	2	1, 2, 3	20
b. Drywell Pressure - High	2, 6, 7	2	1, 2, 3	20
c. Main Steam Line				
1. Radiation - High	1	2	1, 2, 3	21
2. Pressure - Low	1	2	1	22
3. Flow - High	1	2/line	1	22
4. Flow - High	1	2	2, 3	21
d. Main Steam Line Tunnel Temperature - High	1	2 <sup>(d)</sup>	1, 2, 3	21
e. Condenser Vacuum - Low	1	2	1, 2 <sup>(e)</sup>	21
f. Turbine Building Area Temperature - High	1	4 <sup>(d)</sup>	1, 2, 3	21
g. Main Stack Radiation - High	(h)	1	1, 2, 3	28

TABLE 3.3.2-1 (Continued)  
ISOLATION ACTUATION INSTRUMENTATION

ACTIONS

- ACTION 20 - Be in at least HOT SHUTDOWN within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- ACTION 21 - Be in at least STARTUP with the main steam line isolation valves closed within 2 hours or be in at least HOT SHUTDOWN within 6 hours and in COLD SHUTDOWN within the next 30 hours.
- ACTION 22 - Be in at least STARTUP within 2 hours.
- ACTION 23 - Establish SECONDARY CONTAINMENT INTEGRITY with the standby gas treatment system operating within one hour.
- ACTION 24 - Isolate the reactor water cleanup system.
- ACTION 25 - Close the affected system isolation valves and declare the affected system inoperable.
- ACTION 26 - Verify power availability to the bus at least once per 12 hours.
- ACTION 27 - Deactivate the shutdown cooling supply and reactor vessel head spray isolation valves in the closed position until the reactor steam dome pressure is within the specified limits.
- ACTION 28 - Close the affected isolation valves within 14 days or be in HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the following 24 hours.

NOTES

- \* When handling irradiated fuel in the secondary containment.
- (a) See Specification 3.6.3.1, Table 3.6.3.1-1 for valves in each valve group.
- (b) A channel may be placed in an inoperable status for up to 2 hours for required surveillance without placing the trip system in the tripped condition provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.
- (c) With only one channel per trip system, an inoperable channel need not be placed in the tripped condition where this would cause the Trip Function to occur. In these cases, the inoperable channel shall be restored to OPERABLE status within 2 hours or the ACTION required by Table 3.3.2-1 for that Trip Function shall be taken.
- (d) A channel is OPERABLE if 2 of 4 instruments in the channel are OPERABLE.
- (e) With reactor steam pressure  $\geq$  500 psig.
- (f) Closes only RWCU outlet isolation valve.
- (g) Alarm only.
- (h) Isolates containment purge and vent valves.

TABLE 3.3.2-2

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
1. <u>PRIMARY CONTAINMENT ISOLATION</u>		
a. Reactor Vessel Water Level -		
1. Low, Level 1	$\geq + 162.5$ inches <sup>(a)</sup>	$\geq + 162.5$ inches <sup>(a)</sup>
2. Low, Level 2	$\geq + 112$ inches <sup>(a)</sup>	$\geq + 112$ inches <sup>(a)</sup>
3. Low, Level 3	$\geq + 2.5$ inches <sup>(a)</sup>	$\geq + 2.5$ inches <sup>(a)</sup>
b. Drywell Pressure - High	$\leq 2$ psig	$\leq 2$ psig
c. Main Steam Line		
1. Radiation - High	$< 3$ x full power background	$< 3.5$ x full power background
2. Pressure - Low	$\geq 825$ psig	$\geq 825$ psig
3. Flow - High	$\leq 140\%$ of rated flow	$\leq 140\%$ of rated flow
4. Flow - High	$\leq 40\%$ of rated flow	$\leq 40\%$ of rated flow
d. Main Steam Line Tunnel Temperature - High	$\leq 200^\circ\text{F}$	$\leq 200^\circ\text{F}$
e. Condenser Vacuum - Low	$\geq 7$ inches Hg vacuum	$\geq 7$ inches Hg vacuum
f. Turbine Building Area Temp - High	$\leq 200^\circ\text{F}$	$\leq 200^\circ\text{F}$
g. Main Stack Radiation - High	(b)	(b)

TABLE 3.3.2-2 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
5. <u>SHUTDOWN COOLING SYSTEM ISOLATION</u>		
a. Reactor Vessel Water Level - Low Level 1	$\geq 162.5$ inches <sup>(a)</sup>	$\geq 162.5$ inches <sup>(a)</sup>
b. Reactor Steam Dome Pressure - High	$\leq 140$ psig	$\leq 140$ psig

---

(a) Vessel water levels refer to REFERENCE LEVEL ZERO.

(b) Establish alarm/trip setpoints per the methodology contained in the OFFSITE DOSE CALCULATION MANUAL (ODCM).

TABLE 3.3.2-3

ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

<u>TRIP FUNCTION</u>	<u>RESPONSE TIME (Seconds)<sup>(e)</sup></u>
<u>1. PRIMARY CONTAINMENT ISOLATION</u>	
a. Reactor Vessel Water Level -	
1. Low, Level 1	≤13
2. Low, Level 2	≤1.0(d)
3. Low, Level 3	≤1.0(d)
b. Drywell Pressure - High	≤13
c. Main Steam Line	
1. Radiation - High <sup>(b)</sup>	≤1.0(d)
2. Pressure - Low	≤13
3. Flow - High	≤0.5(d)
4. Flow - High	≤0.5(d)
d. Main Steam Line Tunnel Temperature - High	≤13
e. Condenser Vacuum - Low	≤13
f. Turbine Building Area Temperature - High	NA
g. Main Stack Radiation - High <sup>(b)</sup>	≤ 1.0(d)
<u>2. SECONDARY CONTAINMENT ISOLATION</u>	
a. Reactor Building Exhaust Radiation - High <sup>(b)</sup>	≤13
b. Drywell Pressure - High	≤13
c. Reactor Vessel Water Level - Low, Level 2	≤1.0(d)
<u>3. REACTOR WATER CLEANUP SYSTEM ISOLATION</u>	
a. Δ Flow - High	≤13
b. Area Temperature - High	≤13
c. Area Ventilation Temperature Δ T - High	≤13
d. SLCS Initiation	NA
e. Reactor Vessel Water Level - Low, Level 2	≤1.0(d)

TABLE 4.3.2-1

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>TRIP FUNCTION</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>	<u>OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED</u>
<b>1. PRIMARY CONTAINMENT ISOLATION</b>				
<b>a. Reactor Vessel Water Level -</b>				
1. Low, Level 1				
Transmitter:	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1, 2, 3
Trip Logic:	D	M	M	1, 2, 3
2. Low, Level 2				
Transmitter:	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1, 2, 3
Trip Logic:	D	M	M	1, 2, 3
3. Low, Level 3				
Transmitter:	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1, 2, 3
Trip Logic:	D	M	M	1, 2, 3
<b>b. Drywell Pressure - High</b>				
Transmitter:	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1, 2, 3
Trip Logic:	D	M	M	1, 2, 3
<b>c. Main Steam Line</b>				
1. Radiation - High	D	W	R <sup>(d)</sup>	1, 2, 3
2. Pressure - Low				
Transmitter:	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1
Trip Logic:	D	M	M	1
3. Flow - High				
Transmitter:	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1
Trip Logic:	D	M	M	1
4. Flow - High	D	M	M	2, 3
<b>d. Main Steam Line Tunnel Temperature - High</b>				
	NA	M	R	1, 2, 3
<b>e. Condenser Vacuum - Low</b>				
	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1, 2 <sup>(e)</sup>
	D	M	M	1, 2 <sup>(e)</sup>
<b>f. Turbine Building Area Temp-High</b>				
	NA	M	R	1, 2, 3
<b>g. Main Stack Radiation - High</b>				
	NA	Q	R	1, 2, 3

TABLE 4.3.2-1

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>TRIP FUNCTION</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>	<u>OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED</u>
<b>2. <u>SECONDARY CONTAINMENT ISOLATION</u></b>				
a. Reactor Building Exhaust Radiation - High	D	M	R	1,2,3,5, and *
b. Drywell Pressure - High				
Transmitter:	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1, 2, 3
Trip Logic:	D	M	M	1, 2, 3
c. Reactor Vessel Water Level - Low, Level 2				
Transmitter:	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1, 2, 3
Trip Logic:	D	M	M	1, 2, 3
<b>3. <u>REACTOR WATER CLEANUP SYSTEM ISOLATION</u></b>				
a. Δ Flow - High	D	M	R	1, 2, 3
b. Area Temperature - High	NA	M	R	1, 2, 3
c. Area Ventilation Δ Temp - High	NA	M	R	1, 2, 3
d. SLCS Initiation	NA	R	NA	1, 2, 3
e. Reactor Vessel Water Level - Low, Level 2				
Transmitter:	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1, 2, 3
Trip Logic:	D	M	M	1, 2, 3



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 132 TO FACILITY OPERATING LICENSE NO. DPR-71  
AND AMENDMENT NO. 162 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 September 27, 1988, Carolina Power & Light Company submitted a request for changes to the Technical Specifications (TS) for the Brunswick Steam Electric Plant, Units 1 and 2.

The proposed amendments would change the Technical Specifications (TS) to: (1) revise TS Section 3/4.3.2 to include Limiting Conditions for Operation and Surveillance Requirements to ensure the capability of the main stack monitor signal circuitry to isolate containment purge and vent valves, and (2) revise pages affected by the above proposed TS changes, as necessary to correct editorial errors and to conform to other formatting requirements.

2.0 BACKGROUND

NUREG-0737, TMI Action Item II.E.4.2, "Containment Isolation Dependability," states that the containment isolation dependability should include position (7), "Containment Purge and Vent Isolation Valves must close on a high radiation signal." As part of this requirement, Enclosure 2 of NUREG-0737 notes that TS should also be provided. By letter dated December 16, 1983, the licensee committed to provide drywell vent and purge valve isolation on primary containment high radiation signal.

By letter dated August 26, 1986, as supplemented December 17, 1986, the licensee provided a description of the plant modification to implement Item II.E.4.2 requirements.

The staff completed the review of the above mentioned submittals on March 5, 1987 and issued a Safety Evaluation (SE), in which the staff determined that using the stack monitor for the high radiation signal to isolate the containment purge and vent valves complies with Item II.E.4.2 (7) of NUREG-0737. However, the staff requested that TS for operability of the high radiation isolation signal circuitry be submitted for staff review.

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In a letter dated April 23, 1987, the licensee responded to the staff's request and stated that the main stack radiation setpoints are listed and controlled in the Brunswick Offsite Dose Calculation Manual, which is submitted to the staff as part of the Semi-Annual Radioactive Effluent Release Report in accordance with TS 6.1.3.2. In addition, the licensee revised Abnormal Operating Procedure 6.2 to address this isolation capability. In the same April 23, 1987 submittal, the licensee evaluated the staff's SE of March 5, 1987, and determined that the additional TS on the main stack monitor operability requested by the staff are unnecessary and asserted that the existing TS for the stack radiation monitor are sufficient for demonstrating operability. On June 3, 1988, the staff completed the review of the licensee's April 23, 1987 submittal and issued another SE to the licensee. In this SE, the staff approved the existing stack monitor setpoints because they are more conservative than 10 CFR Part 100. In this SE, the staff again requested that the licensee submit TS for operability of the main stack monitor signal circuitry to isolate containment purge and vent valves.

On September 27, 1988, the licensee submitted a request for a license amendment which involved the following proposed changes:

- 1) Revise Technical Specification Section 3/4.3.2 to include Limiting Conditions for Operation and Surveillance Requirements to ensure the capability of the main stack monitor signal circuitry to isolate containment purge and vent valves.
- 2) Revise pages affected by the above proposed changes to TS Section 3/4.3.2, as necessary to correct editorial errors and to conform to the TS formatting requirements.

## 2.1 EVALUATION

The staff has reviewed the licensee's September 27, 1988 submittal and the associated background information. The staff has determined that, in addition to the primary containment isolation that would normally be required for the reactor purge and vent valves to close for low reactor water level and high containment pressure isolation signals, the licensee is providing another means to detect and indicate an abnormal degradation of the reactor coolant pressure boundary by sensing the high radiation level in the main stack, and thus by closing the containment purge and vent valves will prevent fission products from releasing into the environment. This proposed circuitry change (to close the purge and vent valves on high radiation) also provides another level of assurance that the consequences of a loss-of-coolant accident will be mitigated. The staff has concluded that the above proposed license amendments will satisfy both the staff requirements, as stated in NUREG-0737 for Item II.E.4.2 on "Containment Isolation Dependability," as well as the 10 CFR Part 50.34a and Part 50, Appendix I, requirements to keep the release of radioactive material and effluents to unrestricted areas to a level as low as reasonably achievable. The staff has determined that the balance of the changes in the licensee proposed amendments are editorial and will make no changes to the technical content or requirements of the current TS.

## 2.2 SUMMARY

Based on our review of the licensee's submittal, we conclude that using the proposed revision to TS Section 3/4.3.2 to include Limiting Conditions for Operation and Surveillance Requirements to ensure the capability of the main stack monitor signal circuitry to isolate containment purge and vent valves and the revision to the affected TS pages are acceptable and meet the requirements of NUREG-0737, Item II.E.4.2.(7).

## 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 to 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 these amendments involve no significant hazards consideration which was published in the Federal Register ( ) on , 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: N. B. Le

Dated: June 12, 1989

AMENDMENT NO. 132 TO FACILITY OPERATING LICENSE NO. DPR-71 - BRUNSWICK, UNIT 1  
AMENDMENT NO. 162 TO FACILITY OPERATING LICENSE NO. DPR-62 - BRUNSWICK, UNIT 2

Docket File

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