

March 28, 1984

Docket Nos. 50-325/324

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

Dear Mr. Utley:

The Commission has issued the enclosed Amendment Nos. 69 and 95 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 (TSs) in response to your submittal of March 16, 1982 as supplemented June 23 and September 6, 1983 and February 28, 1984.

These amendments modify the Technical Specifications to add requirements regarding the operability, set point response time and surveillance of a time delay relay to be incorporated in the steamline break detection circuitry of the High Pressure Coolant Injection (HPCI) and Reactor Core Isolation Cooling (RCIC) Systems as recommended in Item II.K.3.15 of NUREG-0737, "Clarification of the TMI Action Plan Requirements." In addition, an administrative error is corrected.

In addition, an administrative correction is made to the existing Technical Specifications Table 3.3.2-2, Item 4.a.7, HPCI Steam Line Area Temperature-High.

A copy of the Safety Evaluation is also enclosed.

Sincerely,

Original signed by/

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

Enclosures:

1. Amendment No. 69 to License No. DPR-71
2. Amendment No. 95 to License No. DPR-62
3. Safety Evaluation

cc w/enclosures:

See next page

\*Please see previous concurrence page.

DL:ORB#2  
SNorris:ajs  
03/12/84

DL:ORB#2  
MGrotenhuis  
03/12/84

DL:ORB#2  
SMacKay  
03/12/84

DL:ORB#2  
DVassallo  
03/12/84

DL:ORAB DL:SSPB  
GHolahan\* DBrinkman\*  
12/02/83 11/22/83

DL:AD-OR  
GLatins  
03/14/84 03/28/84

see  
memo  
following  
from Schuto

8404200034 840328  
PDR ADDCK 05000324  
P PDR

Mr. E. E. Utley  
Carolina Power & Light Company  
Brunswick Steam Electric Plant, Units 1 and 2

cc:

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

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-325

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 69  
License No. DPR-71

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Carolina Power & Light Company (the licensee) dated March 16, 1982, as supplemented June 23 and September 6, 1983 and February 28, 1984, 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:

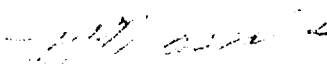
8404200035 840328  
PDR ADOCK 05000324  
P PDR

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 69, 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: March 28, 1984.

ATTACHMENT TO LICENSE AMENDMENT NO. 69

FACILITY OPERATING LICENSE NO. DPR-71

DOCKET NO. 50-325

Revise the Appendix A Technical Specifications as follows:

<u>Remove</u>	<u>Insert</u>
3/4 3-14	3/4 3-14
3/4 3-14a	3/4 3-14a
3/4 3-15	3/4 3-15
3/4 3-19	3/4 3-19
3/4 3-20	3/4 3-20
3/4 3-21	3/4 3-21
3/4 3-22	3/4 3-22
3/4 3-23	3/4 3-23
3/4 3-24	3/4 3-24
3/4 3-24a	3/4 3-24a
3/4 3-24b	3/4 3-24b
3/4 3-28	3/4 3-28
3/4 3-29	3/4 3-29
3/4 3-29a	3/4 3-29a
-	3/4 3-29b

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</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>
4. <u>CORE STANDBY COOLING SYSTEMS ISOLATION</u>				
a. High Pressure Coolant Injection System Isolation				
1. HPCI Steam Line Flow - High (E41-PDT-N004; E41-PDT-N005)  (E41-PDTS-N004-2; E41-PDTS-N005-2)	4	1	1, 2, 3	25
2. HPCI Steam Line High Flow Time Delay Relay (E41-TDR-K33; E41-TDR-K43)	NA	1	1, 2, 3	25
3. HPCI Steam Supply Pressure - Low (E41-PSL-N001A,B,C,D)	4	2	1, 2, 3	25
4. HPCI Steam Line Tunnel Temperature - High (E41-TS-3314; E41-TS-3315; E41-TS-3316; E41-TS-3317; E41-TS-3318; E41-TS-3354; E41-TS-3488; E41-TS-3489)	4	2	1, 2, 3	25
5. Bus Power Monitor (E41-K55 and E41-K56)	NA <sup>(h)</sup>	1/bus	1, 2, 3	26
6. HPCI Turbine Exhaust Diaphragm Pressure - High (E41-PSH-N012A,B,C,D)	4	2	1, 2, 3	25

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</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>
7. HPCI Steam Line Ambient Temperature - High (E51-TS-N603C,D)	4	1	1, 2, 3	25
8. HPCI Steam Line Area $\Delta$ Temp. - High (E51-dTS-N604C,D)	4	1	1, 2, 3	25
9. Emergency Area Cooler Temperature - High (E41-TS-N602A,B)	4	1	1, 2, 3	25
b. Reactor Core Isolation Cooling System Isolation				
1. RCIC Steam Line Flow - High (E51-PDT-NO17; E51-PDT-NO18)  (E51-PDTS-NO17-2; E51-PDTS-NO18-2)	5	1	1, 2, 3	25
2. RCIC Steam Line High Flow Time Delay Relay (E51-TDR-K32; E51-TDR-K12)	NA	1	1, 2, 3	25
3. RCIC Steam Supply Pressure - Low (E51-PS-NO19A,B,C,D)	5	2	1, 2, 3	25
4. RCIC Steam Line Tunnel Temperature - High (E51-TS-3319; E51-TS-3320; E51-TS-3321; E51-TS-3322; E51-TS-3323; E51-TS-3355; E51-TS-3487)	5	2	1, 2, 3	25

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</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>
5. Bus Power Monitor (E51-K42 and E51-K43)	NA (h)	1/bus	1, 2, 3	26
6. RCIC Turbine Exhaust Diaphragm Pressure - High (E51-PS-N012A,B,C,D)	5	2	1, 2, 3	25
7. RCIC Steam Line Ambient Temp - High (E51-TS-N603A,B)	5	1	1, 2, 3	25
8. RCIC Steam Line Area Δ Temp - High (E51-dTS-N604A,B)	5	1	1, 2, 3	25
9. RCIC Equipment Room Ambient Temp - High (E51-TS-N602A,B)	5	1	1, 2, 3	25
10. RCIC Equipment Room Δ Temp - High (E51-dTS-N601A,B)	5	1	1, 2, 3	25
<u>5. SHUTDOWN COOLING SYSTEM ISOLATION</u>				
a. Reactor Vessel Water Level - Low, Level 1 (B21-LT-N017A-1,B-1,C-1,D-1) (B21-LTM-N017A-1,B-1,C-1,D-1)	2, 6, 7, 8	2	1, 2, 3	27
b. Reactor Steam Dome Pressure- High (B32-PS-N018A,B)	7, 8	1	1, 2, 3	27



TABLE 3.3.2-2 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
3. <u>REACTOR WATER CLEANUP SYSTEM ISOLATION</u>		
a. $\Delta$ Flow - High (G31-dFS-N603-1A, 1B)	$\leq$ 53 gal/min	$\leq$ 53 gal/min
b. Area Temperature - High (G31-TS-N600A, B, C, D, E, F)	$\leq$ 150°F	$\leq$ 150°F
c. Area Ventilation Temperature $\Delta$ Temp - High (G31-TS-N602A, B, C, D, E, F)	$\leq$ 50°F	$\leq$ 50°F
d. SLCS Initiation (C41A-S1)	NA	NA
e. Reactor Vessel Water Level - Low, Level 2 (B21-LTM-N024A-1, B-1 and B21-LTM-N025A-1, B-1)	$\geq$ + 112 inches*	$\geq$ + 112 inches*
4. <u>CORE STANDBY COOLING SYSTEMS ISOLATION</u>		
a. High Pressure Coolant Injection System Isolation		
1. HPCI Steam Line Flow - High (E41-PDTS-N004-2; E41-PDTS-N005-2)	$\leq$ 300% of rated flow	$\leq$ 300% of rated flow
2. HPCI Steam Line High Flow Time Delay Relay (E41-TDR-K33; E41-TDR-K43)	$3 \leq t \leq 7$ seconds	$3 \leq t \leq 12$ seconds
3. HPCI Steam Supply Pressure - Low (E41-PSL-N001A, B, C, D)	$\geq$ 100 psig	$\geq$ 100 psig

TABLE 3.3.2-2 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
4. HPCI Steam Line Tunnel Temperature - High (E41-TS-3314; E41-TS-3315; E41-TS-3316; E41-TS-3317; E41-TS-3318; E41-TS-3354; E41-TS-3488; E41-TS-3489)	$\leq 200^{\circ}\text{F}$	$\leq 200^{\circ}\text{F}$
5. Bus Power Monitor (E41-K55 and E41-K56)	NA	NA
6. HPCI Turbine Exhaust Diaphragm Pressure - High (E41-PSH-N012A,B,C,D)	$\leq 10 \text{ psig}$	$\leq 10 \text{ psig}$
7. HPCI Steam Line Ambient Temp - High (E51-TS-N603C,D)	$\leq 200^{\circ}\text{F}$	$\leq 200^{\circ}\text{F}$
8. HPCI Steam Line Area $\Delta$ Temp - High (E51-dTS-N604C,D)	$\leq 50^{\circ}\text{F}$	$\leq 50^{\circ}\text{F}$
9. Emergency Area Cooler Temp - High (E41-TS-N602A,B)	$\leq 175^{\circ}\text{F}$	$\leq 175^{\circ}\text{F}$
b. Reactor Core Isolation Cooling System Isolation		
1. RCIC Steam Line Flow - High (E51-PDTS-N017-2; E51-PDTS-N018-2)	$\leq 300\% \text{ of rated flow}$	$\leq 300\% \text{ of rated flow}$
2. RCIC Steam Line High Flow Time Delay Relay (E51-TDR-K32; E51-TDR-K12)	$3 \leq t \leq 7 \text{ seconds}$	$3 \leq t \leq 12 \text{ seconds}$
3. RCIC Steam Supply Pressure - Low (E51-PS-N019A,B,C,D)	$\geq 50 \text{ psig}$	$\geq 50 \text{ psig}$

TABLE 3.3.2-2 (Continued)  
ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
4. RCIC Steam Line Tunnel Temp - High (E51-TS-3319; E51-TS-3320; E51-TS-3321; E51-TS-3322; E51-TS-3323; E51-TS-3355; E51-TS-3487)	$\leq 175^{\circ}\text{F}$	$\leq 175^{\circ}\text{F}$
5. Bus Power Monitor (E51-K42 and E51-K43)	NA	NA
6. RCIC Turbine Exhaust Diaphragm Pressure - High (E51-PS-N012A,B,C,D)	$\leq 10 \text{ psig}$	$\leq 10 \text{ psig}$
7. RCIC Steam Line Ambient Temp - High (E51-TS-N603A,B)	$\leq 200^{\circ}\text{F}$	$\leq 200^{\circ}\text{F}$
8. RCIC Steam Line Area $\Delta$ Temp - High (E51-dTS-N604A,B)	$\leq 50^{\circ}\text{F}$	$\leq 50^{\circ}\text{F}$
9. RCIC Equipment Room Ambient Temp - High (E51-TS-N602A,B)	$\leq 175^{\circ}\text{F}$	$\leq 175^{\circ}\text{F}$
10. RCIC Equipment Room $\Delta$ Temp - High (E51-dTS-N601A,B)	$\leq 50^{\circ}\text{F}$	$\leq 50^{\circ}\text{F}$
<u>5. SHUTDOWN COOLING SYSTEM ISOLATION</u>		
a. Reactor Vessel Water Level - Low, Level 1 (B21-LTM-N017A-1,B-1,C-1,D-1)	$\geq + 162.5 \text{ inches}^*$	$\geq + 162.5 \text{ inches}^*$
b. Reactor Steam Dome Pressure - High (B32-PS-N018A,B)	$\leq 140 \text{ psig}$	$\leq 140 \text{ psig}$

\* Vessel water levels refer to REFERENCE LEVEL ZERO.

TABLE 3.3.2-3

ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>RESPONSE TIME (Seconds) #</u>
1. <u>PRIMARY CONTAINMENT ISOLATION</u>	
a. Reactor Vessel Water Level -	
1. Low, Level 1	<u>&lt;13</u>
(B21-LT-N017A-1, B-1, C-1, D-1)	
(B21-LTM-N017A-1, B-1, C-1, D-1)	
2. Low, Level 2	<u>&lt;1.0*</u>
(B21-LT-N024A-1, B-1 and	
B21-LT-N025A-1, B-1)	
(B21-LTM-N024A-1, B-1 and	
B21-LTM-N025A-1, B-1)	
b. Drywell Pressure - High	<u>&lt;13</u>
(C71-PT-N002A, B, C, D)	
(C71-PTM-N002A-1, B-1, C-1, D-1)	
c. Main Steam Line	
1. Radiation - High <sup>(b)</sup>	<u>&lt;1.0*</u>
(D12-RM-K603A, B, C, D)	
2. Pressure - Low	<u>&lt;13</u>
(B21-PT-N015A, B, C, D)	
(B21-PTM-N015A-1, B-1, C-1, D-1)	
3. Flow - High	<u>&lt;0.5*</u>
(B21-PDT-N006A, B, C, D;	
B21-PDT-N007A, B, C, D;	
B21-PDT-N008A, B, C, D;	
B21-PDT-N009A, B, C, D)	
(B21-PDTM-N006A-1, B-1, C-1, D-1;	
B21-PDTM-N007A-1, B-1, C-1, D-1;	
B21-PDTM-N008A-1, B-1, C-1, D-1;	
B21-PDTM-N009A-1, B-1, C-1, D-1)	
d. Main Steam Line Tunnel Temperature - High	<u>&lt;13</u>
(B21-TS-N010A, B, C, D;	
B21-TS-N011A, B, C, D;	
B21-TS-N012A, B, C, D;	
B21-TS-N013A, B, C, D)	
e. Condenser Vacuum - Low	<u>&lt;13</u>
(B21-PT-N056A, B, C, D)	
(B21-PTM-N056A-1, B-1, C-1, D-1)	

TABLE 3.3.2-3 (Continued)ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIMETRIP FUNCTION AND INSTRUMENT NUMBERRESPONSE TIME (Seconds) #PRIMARY CONTAINMENT ISOLATION (Continued)

- f. Turbine Building Area Temperature - High NA  
 (B21-TS-3225A,B,C,D;  
 B21-TS-3226A,B,C,D;  
 B21-TS-3227A,B,C,D;  
 B21-TS-3228A,B,C,D;  
 B21-TS-3229A,B,C,D;  
 B21-TS-3230A,B,C,D;  
 B21-TS-3231A,B,C,D;  
 B21-TS-3232A,B,C,D)

2. SECONDARY CONTAINMENT ISOLATION

- a. Reactor Building Exhaust Radiation - High<sup>(b)</sup> <13  
 (D12-RM-N010A,B)
- b. Drywell Pressure - High <13  
 (C71-PT-N002A,B,C,D)  
 (C71-PTM-N002A-1,B-1,C-1,D-1)
- c. Reactor Vessel Water Level - Low, Level 2 <1.0\*  
 (B21-LT-N024A-1,B-1 and  
 B21-LT-N025A-1,B-1)  
 (B21-LTM-N024A-1,B-1 and  
 B21-LTM-N025A-1,B-1)

3. REACTOR WATER CLEANUP SYSTEM ISOLATION

- a. Δ Flow - High <13  
 (G31-dFS-N603-1A,1B)
- b. Area Temperature - High <13  
 (G31-TS-N600A,B,C,D,E,F)
- c. Area Ventilation Temperature ΔT - High <13  
 (G31-TS-N602A,B,C,D,E,F)
- d. SLCS Initiation NA  
 (C41A-S1)
- e. Reactor Vessel Water Level - Low, Level 2 <1.0\*  
 (B21-LT-N024 A-1,B-1 and  
 B21-LT-N025 A-1,B-1)  
 (B21-LTM-N024 A-1,B-1 and  
 B21-LTM-N025 A-1,B-1)

TABLE 3.3.2-3 (Continued)ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>RESPONSE TIME (Seconds) #</u>
<u>4. CORE STANDBY COOLING SYSTEMS ISOLATION</u>	
a. High Pressure Coolant Injection System Isolation	
1. HPCI Steam Line Flow - High (E41-PDT-N004; E41-PDT-N005)  (E41-PDTS-N004-2; E41-PDTS-N005-2)	<u>&lt;13</u> (a)##
2. HPCI Steam Line High Flow Time Delay Relay (E41-TDR-K33; E41-TDR-K43)	NA
3. HPCI Steam Supply Pressure - Low (E41-PSL-N001A,B,C,D)	<u>&lt;13</u>
4. HPCI Steam Line Tunnel Temperature - High (E41-TS-3314; E41-TS-3315; E41-TS-3316; E41-TS-3317; E41-TS-3318; E41-TS-3354; E41-TS-3488; E41-TS-3489)	<u>&lt;13</u>
5. Bus Power Monitor (E41-K55 and E41-K56)	NA
6. HPCI Turbine Exhaust Diaphragm Pressure - High (E41-PSH-N012A,B,C,D)	NA
7. HPCI Steam Line Ambient Temperature - High (E51-TS-N603C,D)	NA
8. HPCI Steam Line Area (E51-dTS-N604C,D)	NA
9. Emergency Area Cooler Temperature - High (E41-TS-602A,B)	NA
b. Reactor Core Isolation Cooling System Isolation	
1. RCIC Steam Line Flow - High (E51-PDT-N017; E51-PDT-N018)  (E51-PDTS-N017-2; E51-PDTS-N018-2)	<u>&lt;13</u> (a)###

TABLE 3.3.2-3 (Continued)ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>RESPONSE TIME (Seconds)#</u>
2. RCIC Steam Line High Flow Time Delay Relay (E51-TDR-K32; E51-TDR-K12)	NA
3. RCIC Steam Supply Pressure - Low (E51-PS-N019A,B,C,D)	NA
4. RCIC Steam Line Tunnel Temp - High (E51-TS-3319; E51-TS-3320; E51-TS-3321; E51-TS-3322; E51-TS-3323; E51-TS-3355; E51-TS-3487)	NA
5. Bus Power Monitor (E51-K42 and E51-K43)	NA
6. RCIC Turbine Exhaust Diaphragm Pressure - High (E51-PS-N012A,B,C,D)	NA
7. RCIC Steam Line Ambient Temperature - High (E51-TS-N603A,B)	NA
8. RCIC Steam Line Area $\Delta$ Temp - High (E51-dTS-N604A,B)	NA
9. Emergency Area Cooler Temperature - High (E51-TS-N602A,B)	NA
10. RCIC Equipment Room $\Delta$ Temp - High (E51-dTS-N601A,B)	NA
<u>5. SHUTDOWN COOLING SYSTEM ISOLATION</u>	
a. Reactor Vessel Water Level - Low, Level 1 (B21-LT-N017A-1,B-1,C-1,D-1) (B21-LTM-N017A-1,B-1,C-1,D-1)	NA
b. Reactor Steam Dome Pressure - High (B32-PS-N018A,B)	NA

TABLE 3.3.2-3 (Continued)ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIMENOTES

- (a) The isolation system instrumentation response time shall be measured and recorded as a part of the ISOLATION SYSTEM RESPONSE TIME. Isolation system instrumentation response time specified includes the delay for diesel generator starting assumed in the accident analysis.
- (b) Radiation monitors are exempt from response time testing. Response time shall be measured from detector output or the input of the first electronic component in the channel.
- \* Isolation actuation instrumentation response time only.
- # Isolation system instrumentation response time specified for the Trip Function actuating each valve group shall be added to isolation time shown in Table 3.6.3-1 and Table 3.6.5.2-1 for valves in each valve group to obtain ISOLATION SYSTEM RESPONSE TIME for each valve.
- ## Includes time delay added by the time delay relay (E41-TDR-K33 and E41-TDR-K43).
- ### Includes time delay added by the time delay relay (E51-TDR-K32 and E51-TDR-K12).



TABLE 4.3.2-1 (Continued)

ISOLATION ACTUATION 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>
4. <u>CORE STANDBY COOLING SYSTEMS ISOLATION</u>				
a. High Pressure Coolant Injection System Isolation				
1. HPCI Steam Line Flow - High (E41-PDT-N004; E41-PDT-N005)	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1, 2, 3
(E41-PDTS-N004-2; E41-PDTS-N005-2)	D	M	M	1, 2, 3
2. HPCI Steam Line High Flow Time Delay Relay (E41-TDR-K33; E41-TDR-K43)	NA	R	R	1, 2, 3
3. HPCI Steam Supply Pressure - Low (E41-PSL-N001A,B,C,D)	NA	M	R	1, 2, 3
4. HPCI Steam Line Tunnel Temperature - High (E41-TS-3314; E41-TS-3315; E41-TS-3316; E41-TS-3317; E41-TS-3318; E41-TS-3354; E41-TS-3488; E41-TS-3489)	NA	M	Q	1, 2, 3
5. Bus Power Monitor (E41-K55 and E41-K56)	NA	R	NA	1, 2, 3
6. HPCI Turbine Exhaust Diaphragm Pressure - High (E41-PSH-N012A,B,C,D)	NA	M	Q	1, 2, 3

TABLE 4.3.2-1 (Continued)

ISOLATION ACTUATION 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>
7. HPCI Steam Line Ambient Temp - High (E51-TS-N603C,D)	NA	M	R	1, 2, 3
8. HPCI Steam Line Area Δ Temp - High (E51-dTS-N604C,D)	NA	M	R	1, 2, 3
9. Emergency Area Cooler Temp - High (E41-TS-N602A,B)	NA	M	Q	1, 2, 3
b. Reactor Core Isolation Cooling System Isolation				
1. RCIC Steam Line Flow - High (E51-PDT-N017; E51-PDT-N018)	NA <sup>(a)</sup>	NA	R <sup>(b)</sup>	1, 2, 3
(E51-PDTS-N017-2; E51-PDTS-N018-2)	D	M	M	1, 2, 3
2. RCIC Steam Line High Flow Time Delay Relay (E51-TDR-K32; E51-TDR-K12)	NA	R	R	1, 2, 3
3. RCIC Steam Supply Pressure - Low (E51-PS-N019A,B,C,D)	NA	M	Q	1, 2, 3

TABLE 4.3.2-1 (Continued)

ISOLATION ACTUATION 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>
4. RCIC Steam Line Tunnel High Temperature (E51-TS-3319; E51-TS-3320; E51-TS-3321; E51-TS-3322; E51-TS-3323; E51-TS-3355; E51-TS-3487)	NA	M	R	1, 2, 3
5. Bus Power Monitor (E51-K42 and E51-K43)	NA	R	NA	1, 2, 3
6. RCIC Turbine Exhaust Diaphragm Pressure - High (E51-PS-N012A,B,C,D)	NA	M	R	1, 2, 3
7. RCIC Steam Line Ambient Temp - High (E51-TS-N603A,B)	NA	M	R	1, 2, 3
8. RCIC Steam Line Area $\Delta$ Temp - High (E51-dTS-N604A,B)	NA	M	R	1, 2, 3
9. RCIC Equipment Room Ambient Temp - High (E51-TS-N602A,B)	NA	M	Q	1, 2, 3
10. RCIC Equipment Room $\Delta$ Temp - High (E51-dTS-N601A,B)	NA	M	Q	1, 2, 3

TABLE 4.3.2-1 (Continued)

ISOLATION ACTUATION 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>
<u>5. SHUTDOWN COOLING SYSTEM ISOLATION</u>				
a. Reactor Vessel Water Level - Low, Level 1 (B21-LT-NO17A-1,B-1,C-1,D-1) (B21-LTM-NO17A-1,B-1,C-1,D-1)	NA <sup>(a)</sup> D	NA M	R <sup>(b)</sup> M	1, 2, 3 1, 2, 3
b. Reactor Steam Dome Pressure - High (B32-PS-NO18A,B)	NA	S/U <sup>(c)</sup> , M	R	1, 2, 3

\* When handling irradiated fuel in the secondary containment.

# When reactor steam pressure  $\geq$  500 psig.

(a) The transmitter channel check is satisfied by the trip unit channel check.  
A separate transmitter check is not required.

(b) Transmitters are exempted from the monthly channel calibration.

(c) If not performed within the previous 31 days.



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

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-324

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 95  
License No. DPR-62

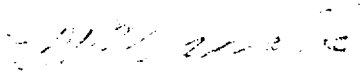
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Carolina Power & Light Company (the licensee) dated March 16, 1982, as supplemented June 23 and September 6, 1983 and February 28, 1984, complies with the standards and requirements of the Atomic 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. 95, 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: March 28, 1984

ATTACHMENT TO LICENSE AMENDMENT NO. 95

FACILITY OPERATING LICENSE NO. DPR-62

DOCKET NO. 50-324

Revise the Appendix A Technical Specifications as follows:

<u>Remove</u>	<u>Insert</u>
3/4 3-14	3/4 3-14
3/4 3-14a	3/4 3-14a
3/4 3-15	3/4 3-15
3/4 3-19	3/4 3-19
3/4 3-20	3/4 3-20
3/4 3-21	3/4 3-21
3/4 3-22	3/4 3-22
3/4 3-23	3/4 3-23
3/4 3-24	3/4 3-24
3/4 3-24a	3/4 3-24a
--	3/4 3-24b
3/4 3-28	3/4 3-28
3/4 3-29	3/4 3-29
3/4 3-29a	3/4 3-29a

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</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>
4. <u>CORE STANDBY COOLING SYSTEMS ISOLATION</u>				
a. High Pressure Coolant Injection System Isolation				
1. HPCI Steam Line Flow - High (E41-dPIS-N004 and E41-dPIS-N005)	4	1	1, 2, 3	25
2. HPCI Steam Line High Flow Time Delay Relay (E41-TDR-K33; E41-TDR-K43)	NA	1	1, 2, 3	25
3. HPCI Steam Supply Pressure - Low (E41-PSL-N001A,B,C,D)	4	2	1, 2, 3	25
4. HPCI Steam Line Tunnel Temperature - High (E41-TS-3314; E41-TS-3315; E41-TS-3316; E41-TS-3317; E41-TS-3318; E41-TS-3354; E41-TS-3488; E41-TS-3489)	4	2	1, 2, 3	25
5. Bus Power Monitor (E41-K55 and E41-K56)	NA <sup>(h)</sup>	1/bus	1, 2, 3	26
6. HPCI Turbine Exhaust Diaphragm Pressure - High (E41-PSH-N012A,B,C,D)	4	2	1, 2, 3	25
7. HPCI Steam Line Ambient Temperature - High (E51-TS-N603C,D)	4	1	1, 2, 3	25



TABLE 3.3.2-1 (Continued)

TRIP FUNCTION AND INSTRUMENT NUMBER	ISOLATION ACTUATION INSTRUMENTATION				ACTION
	VALVE GROUPS OPERATED BY SIGNAL(a)	MINIMUM NUMBER OPERABLE CHANNELS PER TRIP SYSTEM(b)(c)	APPLICABLE OPERATIONAL CONDITION		
8. HPCI Steam Line Area $\Delta$ Temp. - High (E51-dTS-N604C,D)	4	1	1, 2, 3	25	
9. Emergency Area Cooler Temperature - High (E41-TS-N602A,B)	4	1	1, 2, 3	25	
b. Reactor Core Isolation Cooling System Isolation					
1. RCIC Steam Line Flow - High (E51-dPIS-NO17 and E51-dPIS-NO18)	5	1	1, 2, 3	25	
2. RCIC Steam Line High Flow Time Delay Relay (E51-TDR-K32; E51-TDR-K12)	NA	1	1, 2, 3	25	
3. RCIC Steam Supply Pressure - Low (E51-PS-NO19A,B,C,D)	5	2	1, 2, 3	25	
4. RCIC Steam Line Tunnel Temperature - High (E51-TS-3319; E51-TS-3320; E51-TS-3321; E51-TS-3322; E51-TS-3323; E51-TS-3355; E51-TS-3487)	5	2	1, 2, 3	25	
5. Bus Power Monitor (E51-K42 and E51-K43)	NA (h)	1/bus	1, 2, 3	26	
6. RCIC Turbine Exhaust Diaphragm Pressure - High (E51-PS-NO12A,B,C,D)	5	2	1, 2, 3	25	

TABLE 3.3.2-1 (Continued)

TRIP FUNCTION AND INSTRUMENT NUMBER	ISOLATION ACTUATION INSTRUMENTATION			
	VALVE GROUPS OPERATED BY SIGNAL(a)	MINIMUM NUMBER OPERABLE CHANNELS PER TRIP SYSTEM(b)(c)	APPLICABLE OPERATIONAL CONDITION	ACTION
7. RCIC Steam Line Ambient Temp - High (E51-TS-N603A,B)	5	1	1, 2, 3	25
8. RCIC Steam Line Area $\Delta$ Temp - High (E51-dTS-N604A,B)	5	1	1, 2, 3	25
9. RCIC Equipment Room Ambient Temp - High (E51-TS-N602A,B)	5	1	1, 2, 3	25
10 RCIC Equipment Room $\Delta$ Temp - High (E51-dTS-N601A,B)	5	1	1, 2, 3	25
5. <u>SHUTDOWN COOLING SYSTEM ISOLATION</u>				
a. Reactor Vessel Water Level - Low, Level 1 (B21-LT-N017A-1,B-1,C-1,D-1) (B21-LTM-N017A-1,B-1,C-1,D-1)	2, 6, 7, 8	2	1, 2, 3	27
b. Reactor Steam Dome Pressure- High (B32-PS-N018A,B)	7, 8	1	1, 2, 3	27

TABLE 3.3.2-2 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
<u>3. REACTOR WATER CLEANUP SYSTEM ISOLATION</u>		
a. $\Delta$ Flow - High (G31-dFS-N603-1A,1B)	$\leq 53$ gal/min	$\leq 53$ gal/min
b. Area Temperature - High (G31-TS-N600A,B,C,D,E,F)	$\leq 150^{\circ}\text{F}$	$\leq 150^{\circ}\text{F}$
c. Area Ventilation Temperature $\Delta$ Temp - High (G31-TS-N602A,B,C,D,E,F)	$\leq 50^{\circ}\text{F}$	$\leq 50^{\circ}\text{F}$
d. SLCS Initiation (C41A-S1)	NA	NA
e. Reactor Vessel Water Level - Low, Level 2 (B21-LTM-N024A-1,B-1 and B21-LTM-N025A-1,B-1)	$\geq + 112$ inches*	$\geq + 112$ inches*
<u>4. CORE STANDBY COOLING SYSTEMS ISOLATION</u>		
a. High Pressure Coolant Injection System Isolation		
1. HPCI Steam Line Flow - High (E41-dPIS-N004 and E41-dPIS-N005)	$\leq 300\%$ of rated flow	$\leq 300\%$ of rated flow
2. HPCI Steam Line High Flow Time Delay Relay (E41-TDR-K33; E41-TDR-K43)	$3 \leq t \leq 7$ seconds	$3 \leq t \leq 12$ seconds
3. HPCI Steam Supply Pressure - Low (E41-PSL-N001A,B,C,D)	$\geq 100$ psig	$\geq 100$ psig

TABLE 3.3.2-2 (Continued)  
ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
4. HPCI Steam Line Tunnel Temperature - High (E41-TS-3314; E41-TS-3315; E41-TS-3316; E41-TS-3317; E41-TS-3318; E41-TS-3354; E41-TS-3488; E41-TS-3489)	$\leq 200^{\circ}\text{F}$	$\leq 200^{\circ}\text{F}$
5. Bus Power Monitor (E41-K55 and E41-K56)	NA	NA
6. HPCI Turbine Exhaust Diaphragm Pressure - High (E41-PSH-N012A,B,C,D)	$\leq 10 \text{ psig}$	$\leq 10 \text{ psig}$
7. HPCI Steam Line Ambient Temp - High (E51-TS-N603C,D)	$\leq 200^{\circ}\text{F}$	$\leq 200^{\circ}\text{F}$
8. HPCI Steam Line Area $\Delta$ Temp - High (E51-dTS-N604C,D)	$\leq 50^{\circ}\text{F}$	$\leq 50^{\circ}\text{F}$
9. Emergency Area Cooler Temp - High (E41-TS-N602A,B)	$\leq 175^{\circ}\text{F}$	$\leq 175^{\circ}\text{F}$
b. Reactor Core Isolation Cooling System Isolation		
1. RCIC Steam Line Flow - High (E51-dPIS-N017 and E51-dPIS-N018)	$\leq 300\% \text{ of rated flow}$	$\leq 300\% \text{ of rated flow}$
2. RCIC Steam Line High Flow Time Delay Relay (E51-TDR-K32; E51-TDR-K12)	$3 \leq t \leq 7 \text{ seconds}$	$3 \leq t \leq 12 \text{ seconds}$
3. RCIC Steam Supply Pressure - Low (E51-PS-N019A,B,C,D)	$\geq 50 \text{ psig}$	$\geq 50 \text{ psig}$

TABLE 3.3.2-2 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
4. RCIC Steam Line Tunnel Temp - High (E51-TS-3319; E51-TS-3320; E51-TS-3321; E51-TS-3322; E51-TS-3323; E51-TS-3355; E51-TS-3487)	$\leq 175^{\circ}\text{F}$	$\leq 175^{\circ}\text{F}$
5. Bus Power Monitor (E51-K42 and E51-K43)	NA	NA
6. RCIC Turbine Exhaust Diaphragm Pressure - High (E51-PS-N012A,B,C,D)	$\leq 10 \text{ psig}$	$\leq 10 \text{ psig}$
7. RCIC Steam Line Ambient Temp - High (E51-TS-N603A,B)	$\leq 200^{\circ}\text{F}$	$\leq 200^{\circ}\text{F}$
8. RCIC Steam Line Area $\Delta$ Temp - High (E51-dTS-N604A,B)	$\leq 50^{\circ}\text{F}$	$\leq 50^{\circ}\text{F}$
9. RCIC Equipment Room Ambient Temp - High (E51-TS-N602A,B)	$\leq 175^{\circ}\text{F}$	$\leq 175^{\circ}\text{F}$
10. RCIC Equipment Room $\Delta$ Temp - High (E51-dTS-N601A,B)	$\leq 50^{\circ}\text{F}$	$\leq 50^{\circ}\text{F}$
5. <u>SHUTDOWN COOLING SYSTEM ISOLATION</u>		
a. Reactor Vessel Water Level - Low, Level 1 (B21-LTM-N017A-1,B-1,C-1,D-1)	$\geq + 162.5 \text{ inches}^*$	$\geq + 162.5 \text{ inches}^*$
b. Reactor Steam Dome Pressure - High (B32-PS-N018A,B)	$\leq 140 \text{ psig}$	$\leq 140 \text{ psig}$

\* Vessel water levels refer to REFERENCE LEVEL ZERO.

TABLE 3.3.2-3

ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>RESPONSE TIME (Seconds)#</u>
1. <u>PRIMARY CONTAINMENT ISOLATION</u>	
a. Reactor Vessel Water Level -	
1. Low, Level 1 (B21-LT-NO17A-1,B-1,C-1,D-1) (B21-LTM-NO17A-1,B-1,C-1,D-1)	$\leq 13$
2. Low, Level 2 (B21-LT-NO24A-1,B-1 and B21-LT-NO25A-1,B-1) (B21-LTM-NO24A-1,B-1 and B21-LTM-NO25A-1,B-1)	$\leq 1.0^*$
b. Drywell Pressure - High (C72-PS-NO02A,B,C,D)	$\leq 13$
c. Main Steam Line	
1. Radiation - High(b) (D12-RM-K603A,B,C,D)	$\leq 1.0^*$
2. Pressure - Low (B21-PT-NO15A,B,C,D) (B21-PTM-NO15A-1,B-1,C-1,D-1)	$\leq 13$
3. Flow - High (B21-PDT-NO06A,B,C,D; B21-PDT-NO07A,B,C,D; B21-PDT-NO08A,B,C,D; B21-PDT-NO09A,B,C,D) (B21-PDTM-NO06A-1,B-1,C-1,D-1; B21-PDTM-NO07A-1,B-1,C-1,D-1; B21-PDTM-NO08A-1,B-1,C-1,D-1; B21-PDTM-NO09A-1,B-1,C-1,D-1)	$\leq 0.5^*$
4. Flow - High (B21-PDTS-NO06A-2; B21-PDTS-NO07B-2; B21-PDTS-NO08C-2; B21-PDTS-NO09D-2)	$\leq 0.5^*$
d. Main Steam Line Tunnel Temperature - High (B21-TS-NO10A,B,C,D; B21-TS-NO11A,B,C,D; B21-TS-NO12A,B,C,D; B21-TS-NO13A,B,C,D)	$\leq 13$
e. Condenser Vacuum - Low (B21-PS-NO56A,B,C,D)	$\leq 13$

TABLE 3.3.2-3 (Continued)ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>RESPONSE TIME (Seconds)#</u>
f. Turbine Building Area Temperature - High (B21-TS-3225A,B,C,D; B21-TS-3226A,B,C,D; B21-TS-3227A,B,C,D; B21-TS-3228A,B,C,D; B21-TS-3229A,B,C,D; B21-TS-3230A,B,C,D; B21-TS-3231A,B,C,D; B21-TS-3232A,B,C,D)	NA
<u>2. SECONDARY CONTAINMENT ISOLATION</u>	
a. Reactor Building Exhaust Radiation - High <sup>(b)</sup> (D12-RM-N010A,B)	<u>≤13</u>
b. Drywell Pressure - High (C72-PS-N002A,B,C,D)	<u>≤13</u>
c. Reactor Vessel Water Level - Low, Level 2 (B21-LT-N024A-1,B-1 and B21-LT-N025A-1,B-1)  (B21-LTM-N024A-1,B-1 and B21-LTM-N025A-1,B-1)	<u>≤1.0*</u>
<u>3. REACTOR WATER CLEANUP SYSTEM ISOLATION</u>	
a. Δ Flow - High (G31-dFS-N603-1A,1B)	<u>≤13</u>
b. Area Temperature - High (G31-TS-N600A,B,C,D,E,F)	<u>≤13</u>
c. Area Ventilation Temperature ΔT - High (G31-TS-N602A,B,C,D,E,F)	<u>≤13</u>
d. SLCS Initiation (C41A-S1)	NA
e. Reactor Vessel Water Level - Low, Level 2 (B21-LT-N024 A-1,B-1 and B21-LT-N025 A-1,B-1)  (B21-LTM-N024 A-1,B-1 and B21-LTM-N025 A-1,B-1)	<u>≤1.0*</u>

TABLE 3.3.2-3 (Continued)

ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>RESPONSE TIME (Seconds)#</u>	
<u>4. CORE STANDBY COOLING SYSTEMS ISOLATION</u>		
a. High Pressure Coolant Injection System Isolation		
1. HPCI Steam Line Flow - High (E41-dPIS-N004 and E41-dPIS-N005)	$\leq 13$ (a)##	
2. HPCI Steam Line High Flow Time Delay Relay (E41-TDR-K33; E41-TDR-K43)	NA	
3. HPCI Steam Supply Pressure - Low (E41-PSL-N001A,B,C,D)	$\leq 13$	
4. HPCI Steam Line Tunnel Temperature - High (E41-TS-3314; E41-TS-3315; E41-TS-3316; E41-TS-3317; E41-TS-3318; E41-TS-3354; E41-TS-3488; E41-TS-3489)	$\leq 13$	
5. Bus Power Monitor (E41-K55 and E41-K56)	NA	
6. HPCI Turbine Exhaust Diaphragm Pressure - High (E41-PSH-N012A,B,C,D)	NA	
7. HPCI Steam Line Ambient Temperature - High (E51-TS-N603C,D)	NA	
8. HPCI Steam Line Area (E51-dTS-N604C,D)	NA	
9. Emergency Area Cooler Temperature - High (E41-TS-602A,B)	NA	
b. Reactor Core Isolation Cooling System Isolation		
1. RCIC Steam Line Flow - High (E51-dPIS-N017 and E51-dPIS-N018)	$\leq 13$ (a)###	
2. RCIC Steam Line High Flow Time Delay Relay (E51-TDR-K32; E51-TDR-K12)	NA	
3. RCIC Steam Supply Pressure - Low (E51-PS-N019A,B,C,D)	NA	



TABLE 3.3.2-3 (Continued)ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

<u>TRIP FUNCTION AND INSTRUMENT NUMBER</u>	<u>RESPONSE TIME (Seconds)#</u>
4. RCIC Steam Line Tunnel Temp - High (E51-TS-3319; E51-TS-3320; E51-TS-3321; E51-TS-3322; E51-TS-3323; E51-TS-3355; E51-TS-3487)	NA
5. Bus Power Monitor (E51-K42 and E51-K43)	NA
6. RCIC Turbine Exhaust Diaphragm Pressure - High (E51-PS-N012A,B,C,D)	NA
7. RCIC Steam Line Ambient Temperature - High (E51-TS-N603A,B)	NA
8. RCIC Steam Line Area $\Delta$ Temp - High (E51-dTS-N604A,B)	NA
9. Emergency Area Cooler Temperature - High (E51-TS-N602A,B)	NA
10. RCIC Equipment Room $\Delta$ -Temp - High (E51-dTS-N601A,B)	NA
5. <u>SHUTDOWN COOLING SYSTEM ISOLATION</u>	
a. Reactor Vessel Water Level - Low, Level 1 (B21-LT-N017A-1,B-1,C-1,D-1) (B21-LTM-N017A-1,B-1,C-1,D-1)	NA
b. Reactor Steam Dome Pressure - High (B32-PS-N018A,B)	NA

TABLE 3.3.2-3 (Continued)ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIMENOTES

- (a) The isolation system instrumentation response time shall be measured and recorded as a part of the ISOLATION SYSTEM RESPONSE TIME. Isolation system instrumentation response time specified includes the delay for diesel generator starting assumed in the accident analysis.
- (b) Radiation monitors are exempt from response time testing. Response time shall be measured from detector output or the input of the first electronic component in the channel.
- \* Isolation actuation instrumentation response time only.
- # Isolation system instrumentation response time specified for the Trip Function actuating each valve group shall be added to isolation time shown in Table 3.6.3-1 and Table 3.6.5.2-1 for valves in each valve group to obtain ISOLATION SYSTEM RESPONSE TIME for each valve.
- ## Includes time delay added by the time delay relay (E41-TDR-K33 and E41-TDR-K43).
- ### Includes time delay added by the time delay relay (E51-TDR-K32 and E51-TDR-K12).

TABLE 4.3.2-1 (Continued)

ISOLATION ACTUATION 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>
4. <u>CORE STANDBY COOLING SYSTEMS ISOLATION</u>				
a. High Pressure Coolant Injection System Isolation				
1. HPCI Steam Line Flow - High (E41-dPIS-N004; E41-dPIS-N005)	D	M	Q	1, 2, 3
2. HPCI Steam Line High Flow Time Delay Relay (E41-TDR-K33; E41-TDR-K43)	NA	R	R	1, 2, 3
3. HPCI Steam Supply Pressure - Low (E41-PSL-N001A,B,C,D)	NA	M	R	1, 2, 3
4. HPCI Steam Line Tunnel Temperature - High (E41-TS-3314; E41-TS-3315; E41-TS-3316; E41-TS-3317; E41-TS-3318; E41-TS-3354; E41-TS-3488; E41-TS-3489)	NA	M	Q	1, 2, 3
5. Bus Power Monitor (E41-K55 and E41-K56)	NA	R	NA	1, 2, 3
6. HPCI Turbine Exhaust Diaphragm Pressure - High (E41-PSH-N012A,B,C,D)	NA	M	Q	1, 2, 3

TABLE 4.3.2-1 (Continued)

ISOLATION ACTUATION 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>
7. HPCI Steam Line Ambient Temp - High (E51-TS-N603C,D)	NA	M	R	1, 2, 3
8. HPCI Steam Line Area Δ Temp - High (E51-dTS-N604C,D)	NA	M	R	1, 2, 3
9. Emergency Area Cooler Temp - High (E41-TS-N602A,B)	NA	M	Q	1, 2, 3
b. Reactor Core Isolation Cooling System Isolation				
1. RCIC Steam Line Flow - High (E51-dPIS-NO17 and E51-dPIS-NO18)	NA	M	Q	1, 2, 3
2. RCIC Steam Line High Flow Time Delay Relay (E51-TDR-K32; E51-TDR-K12)	NA	R	R	1, 2, 3
3. RCIC Steam Supply Pressure - Low (E51-PS-NO19A,B,C,D)	NA	M	Q	1, 2, 3
4. RCIC Steam Line Tunnel High Temperature (E51-TS-3319; E51-TS-3320; E51-TS-3321; E51-TS-3322; E51-TS-3323; E51-TS-3355; E51-TS-3487)	NA	M	R	1, 2, 3

TABLE 4.3.2-1 (Continued)

ISOLATION ACTUATION 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. Bus Power Monitor (E51-K42 and E51-K43)	NA	R	NA	1, 2, 3
6. RCIC Turbine Exhaust Diaphragm Pressure - High (E51-PS-N012A,B,C,D)	NA	M	R	1, 2, 3
7. RCIC Steam Line Ambient Temp - High (E51-TS-N603A,B)	NA	M	R	1, 2, 3
8. RCIC Steam Line Area Δ Temp - High (E51-dTS-N604A,B)	NA	M	R	1, 2, 3
9. RCIC Equipment Room Ambient Temp - High (E51-TS-N602A,B)	NA	M	Q	1, 2, 3
10. RCIC Equipment Room Δ Temp - High (E51-dTS-N601A,B)	NA	M	Q	1, 2, 3
<u>5. SHUTDOWN COOLING SYSTEM ISOLATION</u>				
a. Reactor Vessel Water Level - Low, Level 1 (B21-LT-N017A-1,B-1,C-1,D-1) (B21-LTM-N017A-1,B-1,C-1,D-1)	NA <sup>(a)</sup> D	NA M	R <sup>(b)</sup> M	1, 2, 3 1, 2, 3
b. Reactor Steam Dome Pressure - High (B32-PS-N018A,B)	NA	S/U <sup>(c)</sup> , M	R	1, 2, 3

\* When handling irradiated fuel in the secondary containment.

# When reactor steam pressure  $\geq$  500 psig.

(a) The transmitter channel check is satisfied by the trip unit channel check.  
A separate transmitter check is not required.

(b) Transmitters are exempted from the monthly channel calibration.

(c) If not performed within the previous 31 days.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 69 TO FACILITY LICENSE NO. DPR-71 AND  
AMENDMENT NO. 95 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

1.0 Introduction

By letter dated March 16, 1982, as supplemented June 23 and September 6, 1983 and February 28, 1984, the Carolina Power & Light Company (the licensee) submitted proposed changes to the Technical Specifications appended to Facility Operating License Nos. DPR-71 and DPR-62 for the Brunswick Steam Electric Plant (BSEP), Units 1 and 2.

The staff issued its notice of the proposed license amendment in the Federal Register on August 23, 1983, prior to receiving CP&L's revised requests of June 23 and September 9, 1983 and February 28, 1984. In that notice the staff proposed a determination of no significant hazards consideration.

The June 23, 1983 submittal was in response to the NRC Generic Letter 83-02 dated January 10, 1983 which contained guidance in the form of model Technical Specifications and recommended instrument response times. Although the changes were fully described in the June 23, 1983 submittal, inadvertently the implementing Technical Specification pages pertaining to II.K.3.15 were omitted from the June 23, 1983 submittal. This omission was corrected by the September 9, 1983 submittal. During the staff review, discussions with the licensee made it apparent that the method used to incorporate the time delays into response times was incorrect. This was corrected in the February 28, 1984 submittal.

Based on the above discussion we conclude that the changes subsequently proposed are consistent with the August 23, 1983 notice. The notice pointed out that the changes were necessary administrative follow up actions essential to the implementation of II.K.3.15 as previously approved. The changes by the subsequent amendments are consistent in that they are insignificant changes to the time delay numbers and still within the guidance limits provided in NUREG-0737, are similarly administrative and fall well within the scope of that notice. Therefore, the staff's previously proposed determination of no significant hazards consideration remains valid.

These amendments would modify the Technical Specifications to correct an erroneous instrument number and add requirements regarding the operability, set point response time and surveillance of a time delay relay to be incorporated in the steam line break detection circuitry of the High Pressure Coolant Injection (HPCI) and Reactor Core Isolation Cooling (RCIC) Systems as recommended in Item II.K.3.15 of NUREG-0737, "Clarification of the TMI Action Plan Requirements." The technical review of TMI Action Item II.K.3.15 was completed with the NRC letter dated July 28, 1982 to the licensee which transmitted the staff Safety Evaluation. That Safety Evaluation is incorporated by reference. This amendment administratively incorporates the changes approved by the Safety Evaluation dated July 28, 1982.

In addition, an administrative correction would be made to the existing Technical Specifications Table 3.3.2-2, Item 4.a.7, HPCI Steam Line Area Temperature-High.

## 2.0 Requirement as Stated in NUREG-0737

The high-pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) systems use differential pressure sensors on elbow taps in the steam lines in their turbine drives to detect and isolate pipe breaks in the systems. The pipe break detection circuitry has resulted in spurious isolation of the HPCI and RCIC systems due to the pressure spike which accompanies startup of the systems. The pipe-break-detection circuitry should be modified so that pressure spikes resulting from HPCI and RCIC system initiation will not cause inadvertent system isolation.

## 3.0 Evaluation of Modifications

The licensee has proposed a 3 to 7-second time delay range based on the model Technical Specifications provided as guidance in Generic Letter 83-02 dated January 10, 1983. Tests of the installed relay at plants using the time delay relays have shown that a 3-second delay is sufficient to prevent spurious isolation. Delay times up to 13 seconds could be allowed without violating the design bases for the HPCI/RCIC isolation systems. This is because the design bases assume that the DC power isolation valve fails and that no offsite AC power is available to the AC valve. The diesel-generator start sequence is assumed by the licensee to require 10 seconds. As noted in footnote "a" to pages 3/4 3-24 of the proposed TS change, the 13-second specification includes the delay for diesel generator starting. We have reviewed the licensee proposal and based on the above, we find that the proposed specification acceptable for items 4.a.1 and 4.b.1 of Tables 3.3.2-1, 3.3.2-2, 3.3.2-3, and 4.3.2-1 of the Technical Specifications for BSEP Units 1 and 2.

### 3.0 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.

### 4.0 Conclusions

We have 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 Contributors: L. L. Wheeler and M. Grotenhuis

Dated: March 28, 1984