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. 146
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 September 29, 1987, as supplemented November 24, 1987, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

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

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications, as indicated in the attachment to this license amendment; and paragraph 2.C.(2) of Facility Operating License No. DPR-62 is hereby amended to read as follows:

(2) Technical Specifications

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

FOR THE NUCLEAR REGULATORY COMMISSION

Burt Buckley for

Elinor G. Adensam, Director
Project Directorate II-1
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance:

LA:PD21:DRPR	PE:PD21:DRPR	PM:PD21:DRPR	OGC-B	D:PD21:DRPR
PAnderson	GRequa	ESylvester/	SHLewis	EAdensam
3/21/88	3/21/88	3/22/88	3/25/88	4/1/88

Subject to resolution of matters raised in note of 3/25/88. BCB for

ATTACHMENT TO LICENSE AMENDMENT NO. 146

FACILITY OPERATING LICENSE NO. DPR-62

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

Remove Pages	Insert Pages
3/4 3-11	3/4 3-11
3/4 3-11a	3/4 3-11a
3/4 3-13	3/4 3-13
3/4 3-17	3/4 3-17
3/4 3-18	3/4 3-18
3/4 3-19	3/4 3-19
3/4 3-22	3/4 3-22
3/4 3-22a	3/4 3-22a
3/4 3-23	3/4 3-23
3/4 3-25	3/4 3-25
3/4 3-25a	3/4 3-25a
3/4 3-27	3/4 3-27

TABLE 3.3.2-1

ISOLATION ACTUATION INSTRUMENTATION

TRIP FUNCTION AND INSTRUMENT NUMBER	VALVE GROUPS OPERATED BY SIGNAL(a)	MINIMUM NUMBER OPERABLE CHANNELS PER TRIP SYSTEM(b)(c)	APPLICABLE OPERATIONAL CONDITION	ACTION
1. PRIMARY CONTAINMENT ISOLATION				
a. Reactor Vessel Water Level -				
1. 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	20
2. Low, Level 2 (B21-LT-N024A-1,B-1, and B21-LT-N025A-1,B-1) (B21-LTM-N024A-1-1,B-1-1 and B21-LTM-N025A-1-1,B-1-1)	3	2	1, 2, 3	20
3. Low, Level 3 (B21-LT-N024A-1,B-1 and B21-LT-N025A-1,B-1) (B21-LTS-N024A-1-2,B-1-2 and B21-LTS-N025A-1-2,B-1-2)	1	2	1, 2, 3	20
b. Drywell Pressure - High (C72-PT-N002A,B,C,D) (C72-PTM-N002A-1,B-1,C-1,D-1)	2, 6, 7	2	1, 2, 3	20
c. Main Steam Line				
1. Radiation - High (d) (D12-RM-K603A,B,C,D)	1	2	1, 2, 3(h)	21
2. Pressure - Low (B21-PT-N015A,B,C,D) (B21-PTM-N015A-1,B-1,C-1,D-1)	1	2	1	22

Amendment No. 48, 78, 97, 127, 142, 145

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

TRIP FUNCTION AND INSTRUMENT NUMBER	VALVE GROUPS OPERATED BY SIGNAL(a)	MINIMUM NUMBER OPERABLE CHANNELS PER TRIP SYSTEM(b)(c)	APPLICABLE OPERATIONAL CONDITION	ACTION
3. Flow - High (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)	1	2/line	1	22

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

TRIP FUNCTION AND INSTRUMENT NUMBER	VALVE GROUPS OPERATED BY SIGNAL(a)	MINIMUM NUMBER OPERABLE CHANNELS PER TRIP SYSTEM(b)(c)	APPLICABLE OPERATIONAL CONDITION	ACTION
2. SECONDARY CONTAINMENT ISOLATION				
a. Reactor Building Exhaust Radiation - High (D12-RM-N010A,B)	6	1	1, 2, 3, 5, and*	23
b. Drywell Pressure - High (C72-PT-N002A,B,C,D) (C72-PTM-N002A-1,B-1,C-1,D-1)	2, 6, 7	2	1, 2, 3	23
c. Reactor Vessel Water Level - Low, Level 2 (B21-LT-N024A-1,B-1 and B21-LT-N025A-1,B-1) (B21-LTM-N024A-1-1,B-1-1 and B21-LTM-N025A-1-1,B-1-1)	3	2	1, 2, 3	23
3. REACTOR WATER CLEANUP SYSTEM ISOLATION				
a. Δ Flow - High (G31-dFS-N603-1A,1B)	3	1	1, 2, 3	24
b. Area Temperature - High (G31-TS-N600A,B,C,D,E,F)	3	2	1, 2, 3	24
c. Area Ventilation Δ Temp. - High (G31-TS-N602A,B,C,D,E,F)	3	2	1, 2, 3	24
d. SLCS Initiation (C41A-S1)	3 (f)	NA	1, 2, 3	24
e. Reactor Vessel Water Level - Low, Level 2 (B21-LT-N024A-1,B-1 and B21-LT-N025A-1,B-1) (B21-LTM-N024A-1-1,B-1-1 and B21-LTM-N025A-1-1,B-1-1)	3	2	1, 2, 3	24

Amendment No. 46, 78, 97, 142, 145

TABLE 3.3.2-2

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION AND INSTRUMENT NUMBER	TRIP SETPOINT	ALLOWABLE VALUE
1. PRIMARY CONTAINMENT ISOLATION		
a. Reactor Vessel Water Level -		
1. Low, Level 1 (B21-LTM-N017A-1,B-1,C-1,D-1)	$\geq$ + 162.5 inches[a]	$\geq$ + 162.5 inches[a]
2. Low, Level 2 (B21-LTM-N024A-1-1,B-1-1 and B21-LTM-N025A-1-1,B-1-1)	$\geq$ + 112 inches[a]	$\geq$ + 112 inches[a]
3. Low, Level 3 (B21-LTS-N024A-1-2,B-1-2 and B21-LTS-N025A-1-2,B-1-2)	$\geq$ + 2.5 inches[a]	$\geq$ + 2.5 inches[a]
b. Drywell Pressure - High (C72-PTM-N002A-1,B-1,C-1,D-1)	$\leq$ 2 psig	$\leq$ 2 psig
c. Main Steam Line		
1. Radiation - High (D12-RM-K603A,B,C,D)	$\leq$ 3 x full power background[b]	$\leq$ 3.5 x full power[b] background
2. Pressure - Low (B21-PTM-N015A-1,B-1,C-1,D-1)	$\geq$ 825 psig	$\geq$ 825 psig
3. Flow - High (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)	$\leq$ 140% of rated flow	$\leq$ 140% of rated flow
4. Flow - High (B21-PDTS-N006A-2; B21-PDTS-N007B-2; B21-PDTS-N008C-2; B21-PDTS-N009D-2)	$\leq$ 40% of rated flow	$\leq$ 40% of rated flow

TABLE 3.3.2-2 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION AND INSTRUMENT NUMBER	TRIP SETPOINT	ALLOWABLE VALUE
PRIMARY CONTAINMENT ISOLATION (Continued)		
d. Main Steam Line Tunnel Temperature - High (B21-TS-N010A,B,C,D; B21-TS-N011A,B,C,D; B21-TS N012A,B,C,D; B21-TS-N013A,B,C,D)	≤ 200°F	≤ 200°F
e. Condenser Vacuum - Low (B21-PTM-N056A-1,B-1,C-1,D-1)	≥ 7 inches Hg vacuum	≥ 7 inches Hg vacuum
f. Turbine Building Area Temp - 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)	≤ 200°F	≤ 200°F
2. SECONDARY CONTAINMENT ISOLATION		
a. Reactor Building Exhaust Radiation - High (D12-RM-N010A,B)	≤ 11 mr/hr	≤ 11 mr/hr
b. Drywell Pressure - High (C72-PTM-N002A-1,B-1,C-1,D-1)	≤ 2 psig	≤ 2 psig
c. Reactor Vessel Water Level - Low, Level 2 (B21-LTM-N024A-1-1,B-1-1 and B21-LTM-N025A-1-1,B-1-1)	≥ + 112 inches(a)	≥ + 112 inches(a)

TABLE 3.3.2-2 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION AND INSTRUMENT NUMBER	TRIP SETPOINT	ALLOWABLE VALUE
3. REACTOR WATER CLEANUP SYSTEM ISOLATION		
a. Δ Flow - High (G31-dFS-N603-1A,1B)	≤ 53 gal/min	≤ 53 gal/min
b. Area Temperature - High (G31-TS-N600A,B,C,D,E,F)	≤ 150°F	≤ 150°F
c. Area Ventilation Temperature Δ Temp - High (G31-TS-N602A,B,C,D,E,F)	≤ 50°F	≤ 50°F
d. SLCS Initiation (C41A-S1)	NA	NA
e. Reactor Vessel Water Level - Low, Level 2 (B21-LTM-NO24A-1-1,B-1-1 and B21-LTM-NO25A-1-1,B-1-1)	≥ + 112 inches(a)	≥ + 112 inches(a)
4. CORE STANDBY COOLING SYSTEMS ISOLATION		
a. High Pressure Coolant Injection System Isolation		
1. HPCI Steam Line Flow - High (E41-PDTS-NOO4-2; E41-PDTS-NOO5-2)	≤ 300% of rated flow	≤ 300% of rated flow
2. HPCI Steam Line High Flow Time Delay Relay (E41-TDR-K33; E41-TDR-K43)	3 ≤ t ≤ 7 seconds	3 ≤ t ≤ 12 seconds
3. HPCI Steam Supply Pressure - Low (E41-PSL-NOO1A,B,C,D)	≥ 100 psig	≥ 100 psig

TABLE 3.3.2-3

ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

TRIP FUNCTION AND INSTRUMENT NUMBER	RESPONSE TIME (Seconds)#
1. PRIMARY CONTAINMENT ISOLATION	
a. Reactor Vessel Water Level -	
1. Low, Level 1 (B21-LT-N017A-1,B-1,C-1,D-1) (B21-LTM-N017A-1,B-1,C-1,D-1)	≤13
2. Low, Level 2 (B21-LT-N024A-1,B-1 and B21-LT-N025A-1,B-1) (B21-LTM-N024A-1-1,B-1-1 and B21-LTM-N025A-1-1,B-1-1)	≤1.0*
3. Low, Level 3 (B21-LT-N024A-1,B-1 and B21-LT-N025A-1,B-1) (B21-LTS-N024A-1-2,B-1-2 and B21-LTS-N025A-1-2,B-1-2)	≤1.0*
b. Drywell Pressure - High (C72-PT-N002A,B,C,D) (C72-PTM-N002A-1,B-1,C-1,D-1)	≤13
c. Main Steam Line	
1. Radiation - High(b) (D12-RM-K603A,B,C,D)	≤1.0*
2. Pressure - Low (B21-PT-N015A,B,C,D) (B21-PTM-N015A-1,B-1,C-1,D-1)	≤13
3. Flow - High (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)	≤0.5*
4. Flow - High (B21-PDTS-N006A-2; B21-PDTS-N007B-2; B21-PDTS-N008C-2; B21-PDTS-N009D-2)	≤0.5*

TABLE 3.3.2-3 (Continued)

ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

TRIP FUNCTION AND INSTRUMENT NUMBER	RESPONSE TIME (Seconds)#
d. Main Steam Line Tunnel Temperature - High (B21-TS-N010A,B,C,D; B21-TS-N011A,B,C,D; B21-TS-N012A,B,C,D; B21-TS-N013A,B,C,D)	≤13
e. Condenser Vacuum - Low (B21-PT-N056A,B,C,D) (B21-PTM-N056A-1,B-1,C-1,D-1)	≤13

TABLE 3.3.2-3 (Continued)

ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

TRIP FUNCTION AND INSTRUMENT NUMBER	RESPONSE TIME (Seconds)#
PRIMARY CONTAINMENT ISOLATION (Continued)	
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
2. SECONDARY CONTAINMENT ISOLATION	
a. Reactor Building Exhaust Radiation - High(b) (D12-RM-N010A,B)	≤13
b. Drywell Pressure - High (C72-PT-N002A,B,C,D) (C72-PTM-N002A-1,B-1,C-1,D-1)	≤13
c. Reactor Vessel Water Level - Low, Level 2 (B21-LT-N024A-1,B-1 and B21-LT-N025A-1,B-1) (B21-LTM-N024A-1-1,B-1-1 and B21-LTM-N025A-1-1,B-1-1)	≤1.0*
3. REACTOR WATER CLEANUP SYSTEM ISOLATION	
a. Δ Flow - High (G31-dFS-N603-1A,1B)	≤13
b. Area Temperature - High (G31-TS-N600A,B,C,D,E,F)	≤13
c. Area Ventilation Temperature Δ T - High (G31-TS-N602A,B,C,D,E,F)	≤13
d. SLCS Initiation (C41A-S1)	NA
e. Reactor Vessel Water Level - Low, Level 2 (B21-LT-N024A-1,B-1 and B21-LT-N025A-1,B-1) (B21-LTM-N024A-1-1,B-1-1 and B21-LTM-N025A-1-1,B-1-1)	≤1.0*

TABLE 4.3.2-1

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION AND INSTRUMENT NUMBER	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED
1. PRIMARY CONTAINMENT ISOLATION				
a. Reactor Vessel Water Level -				
1. Low, Level 1				
(B21-LT-N017A-1,B-1,C-1,D-1)	NA[a]	NA	R[b]	1, 2, 3
(B21-LTM-N017A-1,B-1,C-1,D-1)	D	SA	SA	1, 2, 3
2. Low, Level 2				
(B21-LT-N024A-1,B-1 and B21-LT-N025A-1,B-1)	NA[a]	NA	R[b]	1, 2, 3
(B21-LTM-N024A-1,B-1 and B21-LTM-N025A-1,B-1)	D	SA	SA	1, 2, 3
b. Drywell Pressure - High				
(C72-PT-N002A,B,C,D)	NA[a]	NA	R[b]	1, 2, 3
(C72-PTM-N002A-1,B-1,C-1,D-1)	D	SA	SA	1, 2, 3
c. Main Steam Line				
1. Radiation - High (D12-RM-K603A,B,C,D)	D	W	R[d]	1, 2, 3
2. Pressure - Low				
(B21-PT-N015A,B,C,D)	NA[a]	NA	R[b]	1
(B21-PTM-N015A-1,B-1,C-1,D-1)	D	SA	SA	1
3. Flow - High				
(B21-PDT-N006A,B,C,D; B21-PDT-N007A,B,C,D; B21-PDT-N008A,B,C,D; B21-PDT-N009A,B,C,D)	NA[a]	NA	R[b]	1
(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	SA	SA	1

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TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION AND INSTRUMENT NUMBER	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED
3. Flow - High				
(B21-PDT-N006A,B,C,D; B21-PDT-N007A,B,C,D; B21-PDT-N008A,B,C,D; B21-PDT-N009A,B,C,D)	NA[a]	NA	R[b]	1
(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	M	M	1

Amendment No. 146

TABLE 4.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION AND INSTRUMENT NUMBER	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED
2. SECONDARY CONTAINMENT ISOLATION				
a. Reactor Building Exhaust Radiation - High (D12-RM-N010A,B)	D	M	R	1,2,3,5, and *
b. Drywell Pressure - High (C72-PT-N002A,B,C,D)	NA(a)	NA	R(b)	1, 2, 3
(C72-PTM-N002A-1,B-1,C-1,D-1)	D	M	M	1, 2, 3
c. Reactor Vessel Water Level - Low, Level 2 (B21-LT-N024A-1,B-1 and B21-LT-N025A-1,B-1)	NA(a)	NA	R(b)	1, 2, 3
(B21-LTM-N024A-1-1,B-1-1 and B21-LTM-N025A-1-1,B-1-1)	D	M	M	1, 2, 3
3. REACTOR WATER CLEANUP SYSTEM ISOLATION				
a. Δ Flow - High (G31-dFS-N603-1A,1B)	D	M	R	1, 2, 3
b. Area Temperature - High (G31-TS-N600A,B,C,D,E,F)	NA	M	R	1, 2, 3
c. Area Ventilation Δ Temp - High (G31-TS-N602A,B,C,D,E,F)	NA	M	R	1, 2, 3
d. SLCS Initiation (C41A-S1)	NA	R	NA	1, 2, 3
e. Reactor Vessel Water Level - Low, Level 2 (B21-LT-N024A-1,B-1 and B21-LT-N025A-1,B-1)	NA(a)	NA	R(b)	1, 2, 3
(B21-LTM-N024A-1-1,B-1-1 and B21-LTM-N025A-1-1,B-1-1)	D	M	M	1, 2, 3