February 6, 1989

Docket No. 50-325

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

Dear Mr. Utley:

SUBJECT: ISSUANCE OF AMENDMENT NO. 122 TO FACILITY OPERATING LICENSE NO. DPR-71 - BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 1 REGARDING GROUP 1 PRIMARY CONTAINMENT ISOLATION VALVE SETPOINTS (TAC NO. 68458)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 122 to Facility Operating License No. DPR-71 for the Brunswick Steam Electric Plant, Unit 1. The amendment consists of changes to the Technical Specifications in response to your submittal dated May 27, 1988.

The amendment changes the Technical Specifications to lower the reactor water level setpoints for the isolation of the Group 1 primary containment isolation valves from low level 2 to low level 3. The amendment also adds and changes instrument numbers to be consistent with plant modifications to be made as a result of the setpoint changes.

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

Sincerely,

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

Enclosures:
1. Amendment No. 122 to License No. DPR-62
2. Safety Evaluation

cc w/enclosures:
See next page

[BSEP1 AMEND TAC 68458]

OFC	LA:PD21:DRPR	PE:PD21:DRPR	PM:PD21:DRPR	D:PD21:DRPR			
NAME	RAnderson	BMozafari	ETourigny:jw	EAdensam			
DATE	12/21/88	12/27/88	12/27/88	12/28/88			

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PDR ADOCK 05000325
P PDC

DF01
1/1

Mr. E. E. Utley
Carolina Power & Light Company

Brunswick Steam Electric Plant
Unit 1

cc:

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Post Office Box 29520
Raleigh, North Carolina 27626-0520

DATED: February 6, 1989

AMENDMENT NO. 122 TO FACILITY OPERATING LICENSE NO. DPR-71 - BRUNSWICK, UNIT 1

Docket File
NRC PDR
Local PDR
PDII-1 Reading
S. Varga (14E4)
G. Lainas
E. Adensam
P. Anderson
E. Tourigny
B. Mozafari
OGC
D. Hagan (MNBB 3302)
E. Jordan (MNBB 3302)
B. Grimes (9A2)
T. Meek (4) (P1-137)
W. Jones (P-130A)
E. Butcher (11F23)
Tech Branch that had input in package (Principal Contributor of SE)
ACRS (10)
GPA/PA
ARM/LFMB

cc: Licensee/Applicant Service List

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. 122
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 May 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:

8902080339 890206
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P PDC

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 122, 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

Edward R. Reeves

for 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: February 6, 1989

BSEP1 AMEND TAC 68458

OFC	LA:PD21:DRPR	PE:PD21:DRPR	PM:PD21:DRPR	NRR/SRXB	OGC	D:PD21:DRPR
NAME	PAnderson	BMozafari	ETourigny:jw	WHodges	SHLewis	E REEVES EAdensam
DATE	12/27/88	12/27/88	12/27/88	12/29/88	12/4/88	02/06/88

OFFICIAL RECORD COPY

ATTACHMENT TO LICENSE AMENDMENT NO. 122

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	Insert Pages
3/4 3-11	3/4 3-11
3/4 3-12	3/4 3-12
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 3-23	3/4 3-23
3/4 3-25	3/4 3-25
3/4 3-26	3/4 3-26
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; B21-LT-N025A-1,B-1); (B21-LTS-N024A-1-2,B-1-2; B21-LTS-N025A-1-2,B-1-2)	1	2	1, 2, 3	20
b. Drywell Pressure - High (C71-PT-N002A,B,C,D) (C71-PTM-N002A-1,B-1,C-1,D-1)	2, 6, 7	2	1, 2, 3	20
c. Main Steam Line				
1. Radiation - High (D12-RM-K603A,B,C,D)	1	2	1, 2, 3	21
2. Pressure - Low (B21-PT-N015A,B,C,D) (B21-PTM-N015A-1,B-1,C-1,D-1)	1	2	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
PRIMARY CONTAINMENT ISOLATION (Continued)				
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
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)	1	2(d)	1, 2, 3	21
e. Condenser Vacuum - Low (B21-PT-N056A,B,C,D) (B21-PTM-N056A-1,B-1,C-1,D-1)	1	2	1, 2(e)	21
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)	1	4(d)	1, 2, 3	21

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 (C71-PT-N002A,B,C,D) (C71-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-N024 A-1,B-1 and B21-LT-N025 A-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

TABLE 3.3.2-2 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION AND INSTRUMENT NUMBER	TRIP SETPOINT	ALLOWABLE VALUE
PRIMARY CONTAINMENT ISOLATION		
1. PRIMARY CONTAINMENT ISOLATION		
a. Reactor Vessel Water Level -		
1. Low, Level 1 (B21-LTM-N017A-1,B-1,C-1,D-1)	≥ + 162.5 inches*	≥ + 162.5 inches*
2. Low, Level 2 (B21-LTM-N024A-1-1,B-1-1 and B21-LTM-N025A-1-1,B-1-1)	≥ + 112 inches*	≥ + 112 inches*
3. Low, Level 3 (B21-LTS-N024A-1-2,B-1-2; B21-LTS-N025A-1-2,B-1-2)	≥ +2.5 inches*	≥ +2.5 inches*
b. Drywell PRessure - High (C71-PTM-N002A-1,B-1,C-1,D-1)	≤ 2 psig	≤ 2 psig
c. Main Steam Line		
1. Radiation - High (D12-RM-K603A,B,C,D)	≤ 3 x full power background	≤ 3.5 x full power background
2. Pressure - Low (B21-PTM-N015A-1,B-1,C-1,D-1)	≥ 825 psig	≥ 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)	≤ 140% of rated flow	≤ 140% 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 (C71-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*	≥ + 112 inches*

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-N024A-1-1,B-1-1 and B21-LTM-N025A-1-1,B-1-1)	≥ + 112 inches*	≥ + 112 inches*
4. CORE STANDBY COOLING SYSTEMS ISOLATION		
a. High Pressure Coolant Injection System Isolation		
1. HPCI Steam Line Flow - High (E41-PDTS-N004-2; E41-PDTS-N005-2)	≤ 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-N001A,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; B21-LT-N025A-1,B-1) (B21-LTS-N024A-1-2,B-1-2; B21-LTS-N025A-1-2,B-1-2)	≤ 1.0*
b. Drywell Pressure - High (C71-PT-N002A,B,C,D) (C71-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*
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] (D21-RM-N010A,B)	≤13
b. Drywell Pressure - High (C71-PT-N002A,B,C,D) (C71-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 ΔT - 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-N024 A-1,B-1 and B21-LT-N025 A-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	M	M	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-1-1,B-1-1 and B21-LTM-N025A-1-1,B-1-1)	D	M	M	1, 2, 3
3. Low, Level 3				
(B21-LT-N024A-1,B-1; B21-LT-N025A-1,B-1)	NA[a]	NA	R[b]	1, 2, 3
(B21-LTS-N024A-1-2,B-1-2; B21-LTS-N025A-1-2,B-1-2)	D	M	M	1, 2, 3
b. Drywell Pressure - High				
(C71-PT-N002A,B,C,D)	NA[a]	NA	R[b]	1, 2, 3
(C71-PTM-N002A-1,B-1,C-1,D-1)	D	M	M	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	M	M	1

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
PRIMARY CONTAINMENT ISOLATION (Continued)				
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
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)	NA	M	R	1, 2, 3
e. Condenser Vacuum - Low				
(B21-PT-N056A,B,C,D)	NA[a]	NA	R[b]	1, 2#
(B21-PTM-N056A-1,B-1,C-1,D-1)	D	M	M	1, 2#
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)	NA	M	R	1, 2, 3

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 (C71-PT-N002A,B,C,D)	NA[a]	NA	R[b]	1, 2, 3
(C71-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

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 122 TO FACILITY OPERATING LICENSE NO. DPR-71

CAROLINA POWER & LIGHT COMPANY, et al.

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 1

DOCKET NO. 50-325

1.0 INTRODUCTION

By letter dated May 27, 1988, the Carolina Power & Light Company (the licensee) submitted a request for changes to the Brunswick Steam Electric Plant, Unit 1, Technical Specifications (TS).

The amendment revises Section 3/4.3.2 by changing the reactor water level setpoints for the isolation of the Group 1 primary containment isolation valves from low level 2 to low level 3. The revisions also change master trip unit tag numbers and add instrument tag numbers for the slave units that will be installed.

In its letter, the licensee states that the following benefits will be realized as a result of the main steam isolation valve (MSIV) setpoint change:

1. Reduction in the probability of MSIV closure (reactor isolation).

2. Reduction in Safety/Relief Valve (S/RV) challenges.

3. Prevention of unnecessary use of suppression pool as heak sink.

4. Possible increase in the life expectancy of the feedwater sparger.

2.0 EVALUATION

NUREG-0737, Item II.K.3.16, "Reduction of Challenges and Failures of Relief Valves--Feasibility Study and System Modification," required the licensee to investigate the feasibility and contraindications of reducing challenges to the relief valves by the use of the given suggested changes/methods or the use of other methods developed by the licensee. The changes should not compromise the performance of the valves or other systems. The licensee was required to document the proposed system changes for staff approval before implementation.

By letter dated May 27, 1988, the licensee provided the required documentation. The documents were Technical Specification changes that

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lower the MSIV setpoint from low level 2 (LL2) (+112 inches) to low level 3 (LL3) (+2.5 inches). This was an NRC Staff recommendation to meet NUREG-0737, Item II.K.3.16 requirements relating to S/RV challenges. This change has also been recommended by the General Electric BWR Owners' Group and has been implemented at the other BWRs to which it applies.

The setpoint changes were evaluated with respect to several operating parameters, including the minimum critical power ratio (MCPR), peak vessel pressure, radiation release, and shutdown capability during abnormal operating transients. Fuel cladding integrity during a loss-of-coolant accident (LOCA) and the reactor response during an ATWS event were also evaluated. Results of this evaluation are provided in the GE Topical Report NEDC-30601-P, "Safety Review of Water Level Setpoint Change for Brunswick Steam Electric Plant, Units 1 and 2" (proprietary). As stated in Section 4.2.3 of that report, the change will not cause a reduction in MCPR, an increase in the peak pressure, an increase in radiation release, cause equipment damage, a reduction in plant shutdown capability, or a decrease in core cooling capability. The MSIV level setpoint change has no impact on LOCA events previously evaluated, nor does it cause consequences of accidents previously evaluated to be increased.

Fuel cladding integrity during a LOCA and reactor response during an ATWS event were also evaluated, and the results provided in the report. None of these evaluations indicated that any new or different type of accident would be created by the change. In addition, the present function and structure of the Group 1 isolation valves remains unchanged, thereby eliminating possible operator confusion and training problems that could lead to a new or different type of accident.

The effects of the setpoint change for LOCA events have been reviewed, and it has been determined that the change has no impact. As stated in NEDC-30601-P, large and intermediate LOCA events will not be affected because the rapid depressurization and rapid inventory loss will cause the MSIV to close almost immediately after the accident, before any fuel failure could occur. Thus, the lower MSIV trip will not increase inventory loss from the reactor core or radiation release to the environment. For a small break LOCA, the highest peak cladding temperature for the worst case single failure (i.e., failure of the HPCI system) is considerably less that the 2200°F peak clad temperature limit. Therefore, the setpoint change will have no effect on the limiting maximum average planar linear heat generation rate (MAPLHGR).

For a loss of feedwater flow event the reactor would not be isolated while HPCI and RCIC are operating. Reactor core isolation cooling system flow would compensate for steam flow through the turbine control valves to the main condenser, thereby maintaining water level above LL 3, keeping the MSIVs open, and preventing the S/RV's from opening. Thus, the MSIV setpoint change will not compromise core cooling capability for the loss of feedwater flow event. Furthermore, it reduces suppression pool heatup for this event because the main condenser is available for a longer time.

The LL 3 reactor water level setpoint for the Group 1 primary containment isolation system valves still "ensures the effectiveness of the instrumentation used to mitigate the consequences of accidents," as demonstrated by the evaluation in Sections 4 and 5 of NEDC-30601-P. Thus, for the reasons described above, the margin of safety is not reduced and may actually be increased.

In order to effect the above described changes, the licensee is adding slave units with instrument numbers B21-LTS-N024A-1-2, B-1-2 and B21-LTS-N025A-1-2, B-1-2 for the LL 3 instrumentation and is also upgrading the master trip units with models of the same type as the existing master trip units in order to be compatible with the new slave trip units. The new master trip units will have instrument numbers B21-LTM-N024A-1-1, B-1-1 and B21-LTM-N025A-1-1, B-1-1 for the LL 2 instrumentation. The licensee provided the instrument number changes as part of the Technical Specification changes. The licensee is making the actual hardware changes pursuant to 10 CFR 50.59. Thus, the staff's review of this part of the application only ensures that the instrument numbers are changed according to the licensee's request.

3.0 SUMMARY

The licensee's contractor concluded from their analysis that implementation of the MSIV setpoint change from LL 2 to LL 3 will not result in any unacceptable safety results for any transients or accident events.

The benefit of the lower MSIV water level trip is that it enhances the plant availability and safety. It will reduce the possibility of spurious MSIV closure due to water level variation during normal operation and it will maintain the availability of the main condenser which limits heat up of the suppression pool and reduces S/RV challenges.

The staff has reviewed the contractor's analyses and conclusions contained in report NEDC-30601-P and agrees with the above conclusions.

In addition, the staff has reviewed the instrument number changes and finds that they are acceptable.

4.0 ENVIRONMENTAL CONSIDERATIONS

This amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area, as defined in 10 CFR Part 20, and changes to the surveillance requirements. The staff has determined that the amendment involves 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 should be no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration, and there has been no public comment on such finding. Accordingly, this amendment

meets 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 the amendment.

5.0 CONCLUSION

The Commission made a proposed determination that this amendment involves no significant hazards consideration which was published in the Federal Register on November 16, 1988 at 53 FR 46137, 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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Dated: February 6, 1989