March 20, 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. 68 and 94 to Facility Operating License Nos. DPR-71 and DPR-62 for the Brunswick Steam Electric Plant, Units 1 and 2. The amendments consist of changes to the Technical Specifications in response to your submittal of June 23, 1983.

These amendments modify the Technical Specifications (TS) by adding Limiting Conditions for Operation and Surveillance Requirements to the pertinent instrumentation associated with the modification to the Reactor Core Isolation Cooling system (RCIC). The changes were proposed at the request of the Commission by Generic Letter No. 83-02, dated January 10, 1983.

A copy of the related Safety Evaluation is also enclosed.

Sincerely,

Original signed by/

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

Enclosures:
1. Amendment No. 68 to License No. DPR-71
2. Amendment No. 94 to License No. DPR-62
3. Safety Evaluation

cc w/enclosures:
See next page

DISTRIBUTION	CPatel		
Docket File	SNorris	ELJordan	ACRS (10)
NRC PDR	SMacKay	JMTaylor	OPA, CMiles
Local PDR	MGrotenhuis	TBarnhart (8)	RDiggs
ORB#2 Rdg	OELD	WJones	Gray File
DEisenhut	LJHarmon	DBrinkman	Extra - 5

DL:ORB#2	DL:ORB#2	DL:ORB#2	DL:SSRB	DL:ORB#2	OELD	DL:AD-OR
SNorris:ajs	SMacKay	MGrotenhuis	DHoffman	DVassallo		GLainas
02/29/84	02/29/84	02/29/84	03/12/84	03/2/84	03/15/84	03/19/84

Fed. Reg. date 9/21/83

8404110161 840320
PDR ADOCK 05000324
P PDR

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

cc:

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

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

Mr. Charles R. Dietz
Plant Manager
Post Office Box 458
Southport, North Carolina 28461

Mr. Franky Thomas, Chairman
Board of Commissioners
Post Office Box 249
Bolivia, North Carolina 28422

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

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

Resident Inspector
U. S. Nuclear Regulatory Commission
Star Route 1
Post Office Box 208
Southport, North Carolina 28461

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

Dayne H. Browns, Chief
Radiation Protection Branch
Division of Facility Services
Department of Human Resources
Post Office Box 12200
Raleigh, North Carolina 27605

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. 68
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 June 23, 1983 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:

8404110169 840320
PDR ADOCK 05000324
P PDR

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 68 , 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 20, 1984

ATTACHMENT TO LICENSE AMENDMENT NO. 68

FACILITY OPERATING LICENSE NO. DPR-71

DOCKET NO. 50-325

Revise the Appendix A Technical Specifications as follows:

Remove	Insert
V	V
X	X
3/4 3-82	3/4 3-82
3/4 3-83	3/4 3-83
3/4 3-84	3/4 3-84
3/4 3-85	3/4 3-85
3/4 3-86	3/4 3-86
3/4 7-7	3/4 7-7
3/4 7-8	3/4 7-8
B 3/4 3-6	B 3/4 3-6

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

SECTION		PAGE
3/4.3 INSTRUMENTATION		
3/4.3.1	REACTOR PROTECTION SYSTEM INSTRUMENTATION.....	3/4 3-1
3/4.3.2	ISOLATION ACTUATION INSTRUMENTATION.....	3/4 3-9
3/4.3.3	EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION.	3/4 3-30
3/4.3.4	CONTROL ROD WITHDRAWAL BLOCK INSTRUMENTATION.....	3/4 3-39
3/4.3.5	MONITORING INSTRUMENTATION	
	Seismic Monitoring Instrumentation.....	3/4 3-44
	Remote Shutdown Monitoring Instrumentation.....	3/4 3-47
	Post-accident Monitoring Instrumentation.....	3/4 3-50
	Source Range Monitors.....	3/4 3-53
	Chlorine Detection System.....	3/4 3-54
	Chloride Intrusion Monitors.....	3/4 3-55
	Fire Detection Instrumentation.....	3/4 3-59
	Radioactive Liquid Effluent Monitoring Instrumentation..	3/4 3-62
	Radioactive Gaseous Effluent Monitoring Instrumentation.	3/4 3-68
3/4.3.6	ATWS RECIRCULATION PUMP TRIP SYSTEM INSTRUMENTATION.....	3/4 3-78
3/4.3.7	REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION.....	3/4 3-82
3/4.4 REACTOR COOLANT SYSTEM		
3/4.4.1	RECIRCULATION SYSTEM	
	Recirculation Loops.....	3/4 4-1
	Jet Pumps.....	3/4 4-2
	Idle Recirculation Loop Startup.....	3/4 4-3
3/4.4.2	SAFETY/RELIEF VALVES.....	3/4 4-4
3/4.4.3	REACTOR COOLANT SYSTEM LEAKAGE	
	Leakage Detection Systems.....	3/4 4-5
	Operational Leakage.....	3/4 4-6

INDEX

BASES

SECTION		PAGE
3/4.0 APPLICABILITY		B 3/4 0-1
3/4.1 REACTIVITY CONTROL SYSTEMS		
3/4.1.1	SHUTDOWN MARGIN	B 3/4 1-1
3/4.1.2	REACTIVITY ANOMALIES	B 3/4 1-1
3/4.1.3	CONTROL RODS	B 3/4 1-1
3/4.1.4	CONTROL ROD PROGRAM CONTROLS	B 3/4 1-3
3/4.1.5	STANDBY LIQUID CONTROL SYSTEM	B 3/4 1-4
3/4.2 POWER DISTRIBUTION LIMITS		
3/4.2.1	AVERAGE PLANAR LINEAR HEAT GENERATING RATE	B 3/4 2-1
3/4.2.2	APRM SETPOINTS	B 3/4 2-3
3/4.2.3	MINIMUM CRITICAL POWER RATIO	B 3/4 2-3
3/4.2.4	LINEAR HEAT GENERATION RATE	B 3/4 2-5
3/4.3 INSTRUMENTATION		
3/4.3.1	REACTOR PROTECTION SYSTEM INSTRUMENTATION	B 3/4 3-1
3/4.3.2	ISOLATION ACTUATION INSTRUMENTATION	B 3/4 3-2
3/4.3.3	EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION	B 3/4 3-2
3/4.3.4	CONTROL ROD WITHDRAWAL BLOCK INSTRUMENTATION	B 3/4 3-2
3/4.3.5	MONITORING INSTRUMENTATION	B 3/4 3-2
3/4.3.6	ATWS RECIRCULATION PUMP TRIP SYSTEM INSTRUMENTATION	B 3/4 3-6
3/4.3.7	REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION	B 3/4 3-6
3/4.4 REACTOR COOLANT SYSTEM		
3/4.4.1	RECIRCULATION SYSTEM	B 3/4 4-1
3/4.4.2	SAFETY/RELIEF VALVES	B 3/4 4-1
3/4.4.3	REACTOR COOLANT SYSTEM LEAKAGE	B 3/4 4-1

INSTRUMENTATION

3/4.3.7 REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.7 The reactor core isolation cooling (RCIC) system actuation instrumentation channels shown in Table 3.3.7-1 shall be OPERABLE with ther trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.7-2.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3 with reactor steam dome pressure greater than 113 psig.

ACTION:

a. With a RCIC system actuation instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.7-2, declare the channel inoperable until the channel is restored to OPERABLE status with its trip setpoint adjusted consistent with the Trip Setpoint value.

b. With one or more RCIC system actuation instrumentation channels inoperable, take the ACTION required by Table 3.3.7-1.

SURVEILLANCE REQUIREMENTS

4.3.7.1 Each RCIC system actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3.7.1-1.

4.3.7.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.

TABLE 3.3.7-1

REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION

FUNCTIONAL UNIT AND INSTRUMENT NUMBER	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (a)	ACTION
a. Reactor Vessel Water Level - Low, Level 2 (B21-LT-N031A,B,C,D) (B21-LTM-N031A-1,B-1,C-1,D-1)	2	50
b. Reactor Vessel Water Level - High (B21-LT-N017A-2,C-2) (B21-LTM-N017A-2,C-2)	2(b)	51
c. Condensate Storage Tank Water Level - Low(d) (E51-LSL-4463,E51-LSL-4464)	2(c)	52

(a) A channel may be placed in an inoperble 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.
(b) One trip system with two-out-of-two logic.
(c) One trip system with one-out-of-two logic.
(d) Provides signal to RCIC pump suction valves only.

TABLE 3.3.7-1 (Continued)

REACTOR CORE ISOLATION COOLING SYSTEM

ACTUATION INSTRUMENTATION

ACTION 50 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement:

a. For one trip system place the inoperable channel(s) and/or that trip system in the tripped condition within one hour or declare the RCIC system inoperable.

b. For both trip systems, declare the RCIC system inoperable.

ACTION 51 - With the number of OPERABLE channels less than required by the Minimum OPERABLE channels per Trip System requirement, declare the RCIC system inoperable.

ACTION 52 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, place at least one inoperable channel in the tripped condition within one hour or declare the RCIC system inoperable.

TABLE 3.3.7-2

REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

FUNCTIONAL UNIT AND INSTRUMENT NUMBER	TRIP SETPOINT	ALLOWABLE VALUE
a. Reactor Vessel Water Level - Low, Level 2 (B21-LTM-N031A-1,B-1,C-1,D-1)	≥ +112 inches*	≥ +112 inches*
b. Reactor Vessel Water Level - High (B21-LTM-N017A-2,C-2)	≤ +208 inches*	≤ +208 inches*
c. Condensate Storage Tank Level - Low (E51-LSL-4463, E51-LSL-4464)	≥ 23 feet 0 inches	≥ 23 feet 0 inches

*Vessel water levels refer to REFERENCE LEVEL ZERO.

TABLE 4.3.7.1-1

REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT AND INSTRUMENT NUMBER	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION
a. Reactor Vessel Water Level - Low, Level 2			
(B21-LT-N031A,B,C,D)	NA[a]	NA	R[b]
(B21-LTM-N031A-1,B-1,C-1,D-1)	D	M	M
b. Reactor Vessel Water Level - High			
(B21-LT-N017A-2,C-2)	NA[a]	NA	R[b]
(B21-LTM-N017A-2,C-2)	D	M	M
c. Condensate Storage Tank Level - Low			
(E51-LSL-4463, E51-LSL-4464)	NA	M	Q

(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.

PLANT SYSTEMS

3/4.7.4 REACTOR CORE ISOLATION COOLING SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.4 The reactor core isolation cooling (RCIC) system shall be OPERABLE with an OPERABLE flow path capable of automatically taking suction from the suppression pool and transferring the water to the reactor pressure vessel.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3 with reactor steam dome pressure greater than 113 psig.

ACTION:

With the RCIC system inoperable, operation may continue and the provisions of Specifications 3.0.4 are not applicable provided the HPCI system is OPERABLE; restore the RCIC system to OPERABLE status within 31 days or be in at least HOT SHUTDOWN within the next 12 hours and reduce reactor steam dome pressure to less than or equal to 113 psig within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.7.4 The RCIC system shall be demonstrated OPERABLE:

a. At least once per 31 days by:

   1. Verifying by venting at the highpoint vents that the system piping from the pump discharge valve to the system isolation valve is filled with water.

   2. Verifying that each valve, manual, power operated or automatic in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.

b. At least once per 92 days by verifying that the RCIC pump develops a flow of greater than or equal to 400 gpm in the test flow path with a system head corresponding to reactor vessel operating pressure when steam is being supplied to the turbine at 1000 + 20, - 80 psig.*

*The provisions of Specification 4.0.4 are not applicable provided the surveillance is performed within 24 hours after reactor steam pressure is adequate to perform the test.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

c. At least once per 18 months by:

1. Performing a system functional test which includes simulated automatic actuation and restart+ and verifying that each automatic valve in the flow path actuates to its correct position, but may exclude actual injection of coolant into the reactor vessel.

2. Verifying that the system will develop a flow of greater than or equal to 400 gpm in the test flow path when steam is supplied to the turbine at a pressure of 150 ± 15 psig.*

3. Verifying that the suction for the RCIC system is automatically transferred from the condensate storage tank to the suppression pool on a condensate storage tank water level-low signal.

---

* The provisions of Specifications 4.0.4 are not applicable provided the surveillance is performed within 24 hours after reactor steam pressure is adequate to perform the tests.

\+ Automatic restart on a low water level signal which is subsequent to a high water level trip.

INSTRUMENTATION

BASES

3/4.3.6 ATWS RECIRCULATION PUMP TRIP ACTUATION INSTRUMENTATION

The ATWS recirculation pump trip system has been added at the suggestion of ACRS as a means of limiting the consequences of the unlikely occurrence of a failure to scram during an anticipated transient. The response of the plant to this postulated event falls within the envelope of study events given in General Electric Company Topical Report NEDO-10349, dated March, 1971.

3/4.3.7 REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION

The reactor core isolation cooling system actuation instrumentation is provided to initiate actions to assure adequate core cooling in the event of reactor isolation from its primary heat sink and the loss of feedwater flow to the reactor vessel without providing actuation of any of the emergency core cooling equipment.

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. 94
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 June 23, 1983 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. 94 , 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 20, 1984

ATTACHMENT TO LICENSE AMENDMENT NO. 94

FACILITY OPERATING LICENSE NO. DPR-62

DOCKET NO. 50-324

Revise the Appendix A Technical Specifications as follows:

Remove	Insert
V	V
X	X
3/4 3-88	3/4 3-88
3/4 3-89	3/4 3-89
3/4 3-90	3/4 3-90
3/4 3-91	3/4 3-91
3/4 3-92	3/4 3-92
3/4 7-7	3/4 7-7
3/4 7-8	3/4 7-8
B 3/4 3-7	B 3/4 3-7

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

SECTION		PAGE
3/4.3	INSTRUMENTATION	
3/4.3.1	REACTOR PROTECTION SYSTEM INSTRUMENTATION	3/4 3-1
3/4.3.2	ISOLATION ACTUATION INSTRUMENTATION	3/4 3-9
3/4.3.3	EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION	3/4 3-30
3/4.3.4	CONTROL ROD WITHDRAWAL BLOCK INSTRUMENTATION	3/4 3-39
3/4.3.5	MONITORING INSTRUMENTATION	
	Seismic Monitoring Instrumentation	3/4 3-44
	Remote Shutdown Monitoring Instrumentation	3/4 3-47
	Post-accident Monitoring Instrumentation	3/4 3-50
	Source Range Monitors	3/4 3-53
	Chlorine Detection System	3/4 3-54
	Chloride Intrusion Monitors	3/4 3-55
	Fire Detection Instrumentation	3/4 3-59
	Radioactive Liquid Effluent Monitoring Instrumentation	3/4 3-62
	Radioactive Gaseous Effluent Monitoring Instrumentation	3/4 3-68
3/4.3.6	RECIRCULATION PUMP TRIP ACTUATION INSTRUMENTATION	
	ATWS Recirculation Pump Trip System Instrumentation	3/4 3-78
	End-of-Cycle Recirculation Pump Trip System Instrumentation	3/4 3-82
3/4.3.7	REACTOR ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION	3/4 3-88
3/4.4	REACTOR COOLANT SYSTEM	
3/4.4.1	RECIRCULATION SYSTEM	
	Recirculation Loops	3/4 4-1
	Jet Pumps	3/4 4-2
	Idle Recirculation Loop Start-up	3/4 4-3
3/4.4.2	SAFETY/RELIEF VALVES	3/4 4-4

INDEX

BASES

SECTION		PAGE
3/4.0 APPLICABILITY		B 3/4 0-1
3/4.1 REACTIVITY CONTROL SYSTEMS		
3/4.1.1	SHUTDOWN MARGIN	B 3/4 1-1
3/4.1.2	REACTIVITY ANOMALIES	B 3/4 1-1
3/4.1.3	CONTROL RODS	B 3/4 1-1
3/4.1.4	CONTROL ROD PROGRAM CONTROLS	B 3/4 1-3
3/4.1.5	STANDBY-LIQUID CONTROL SYSTEM	B 3/4 1-4
3/4.2 POWER DISTRIBUTION LIMITS		
3/4.2.1	AVERAGE PLANAR LINEAR HEAT GENERATION RATE	B 3/4 2-1
3/4.2.2	APRM SETPOINTS	B 3/4 2-3
3/4.2.3	MINIMUM CRITICAL POWER RATIO	B 3/4 2-3
3/4.2.4	LINEAR HEAT GENERATION RATE	B 3/4 2-5
3/4.3 INSTRUMENTATION		
3/4.3.1	REACTOR PROTECTION SYSTEM INSTRUMENTATION	B 3/4 3-1
3/4.3.2	ISOLATION ACTUATION INSTRUMENTATION	B 3/4 3-2
3/4.3.3	EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION	B 3/4 3-2
3/4.3.4	CONTROL ROD WITHDRAWAL BLOCK INSTRUMENTATION	B 3/4 3-2
3/4.3.5	MONITORING INSTRUMENTATION	B 3/4 3-2
3/4.3.6	RECIRCULATION PUMP TRIP ACTUATION INSTRUMENTATION	B 3/4 3-6
3/4.3.7	REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION	B 3/4 3-7
3/4.4 REACTOR COOLANT SYSTEM		
3/4.4.1	RECIRCULATION SYSTEM	B 3/4 4-1
3/4.4.2	SAFETY/RELIEF VALVES	B 3/4 4-1
3/4.4.3	REACTOR COOLANT SYSTEM LEAKAGE	B 3/4 4-1

INSTRUMENTATION

3/4.3.7 REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.7 The reactor core isolation cooling (RCIC) system actuation instrumentation channels shown in Table 3.3.7-1 shall be OPERABLE with ther trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.7-2.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3 with reactor steam dome pressure greater than 113 psig.

ACTION:

a. With a RCIC system actuation instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.7-2, declare the channel inoperable until the channel is restored to OPERABLE status with its trip setpoint adjusted consistent with the Trip Setpoint value.

b. With one or more RCIC system actuation instrumentation channels inoperable, take the ACTION required by Table 3.3.7-1.

SURVEILLANCE REQUIREMENTS

4.3.7.1 Each RCIC system actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3.7.1-1.

4.3.7.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.

TABLE 3.3.7-1

REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION

FUNCTIONAL UNIT AND INSTRUMENT NUMBER	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (a)	ACTION
a. Reactor Vessel Water Level - Low, Level 2 (B21-LT-N031A,B,C,D) (B21-LTM-N031A-1,B-1,C-1,D-1)	2	50
b. Reactor Vessel Water Level - High (B21-LT-N017A-2,C-2) (B21-LTM-N017A-2,C-2)	2(b)	51
c. Condensate Storage Tank Water Level - Low(d) (E51-LSL-4463, E51-LSL-4464)	2(c)	52

(a) A channel may be placed in an inoperble status for up to 2 hours for required surveillance without placing the trip system in the tripped condition provided at Ieast one other OPERABLE channel in the same trip system is monitoring that parameter.
(b) One trip system with two-out-of-two logic.
(c) One trip system with one-out-of-two logic.
(d) Provides signal to RCIC pump suction valves only.

TABLE 3.3.7-1 (Continued)

REACTOR CORE ISOLATION COOLING SYSTEM

ACTUATION INSTRUMENTATION

ACTION 50 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement:

a. For one trip system, place the inoperable channel(s) and/or that trip system in the tripped condition within one hour or declare the RCIC system inoperable.

b. For both trip systems, declare the RCIC system inoperable.

ACTION 51 - With the number of OPERABLE channels less than required by the Minimum OPERABLE channels per Trip System requirement, declare the RCIC system inoperable.

ACTION 52 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, place at least one inoperable channel in the tripped condition within one hour or declare the RCIC system inoperable.

TABLE 3.3.7-2

REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

FUNCTIONAL UNIT AND INSTRUMENT NUMBER	TRIP SETPOINT	ALLOWABLE VALUE
a. Reactor Vessel Water Level - Low, Level 2 (B21-LTM-N031A-1,B-1,C-1,D-1)	≥ +112 inches*	≥ +112 inches*
b. Reactor Vessel Water Level - High (B21-LTM-N017A-2,C-2)	≤ +208 inches*	≤ +208 inches*
c. Condensate Storage Tank Level - Low (E51-LSL-4463, E51-LSL-4464)	≥ 23 feet 0 inches	≥ 23 feet 0 inches

*Vessel water levels refer to REFERENCE LEVEL ZERO.

TABLE 4.3.7.1-1

REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT AND INSTRUMENT NUMBER	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION
a. Reactor Vessel Water Level - Low, Level 2			
(B21-LT-N031A,B,C,D)	NA[a]	NA	R[b]
(B21-LTM-N031A-1,B-1,C-1,D-1)	D	M	M
b. Reactor Vessel Water Level - High			
(B21-LT-N017A-2,C-2)	NA[a]	NA	R[b]
(B21-LTM-N017A-2,C-2)	D	M	M
c. Condensate Storage Tank Level - Low			
(E51-LSL-4463, E51-LSL-4464)	NA	M	Q

(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.

PLANT SYSTEMS

3/4.7.4 REACTOR CORE ISOLATION COOLING SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.4 The reactor core isolation cooling (RCIC) system shall be OPERABLE with an OPERABLE flow path capable of automatically taking suction from the suppression pool and transferring the water to the reactor pressure vessel.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3 with reactor steam dome pressure greater than 113 psig.

ACTION:

With the RCIC system inoperable, operation may continue and the provisions of Specifications 3.0.4 are not applicable provided the HPCI system is OPERABLE; restore the RCIC system to OPERABLE status within 31 days or be in at least HOT SHUTDOWN within the next 12 hours and reduce reactor steam dome pressure to less than or equal to 113 psig within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.7.4 The RCIC system shall be demonstrated OPERABLE:

a. At least once per 31 days by:

   1. Verifying by venting at the highpoint vents that the system piping from the pump discharge valve to the system isolation valve is filled with water.

   2. Verifying that each valve, manual, power operated or automatic in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.

b. At least once per 92 days by verifying that the RCIC pump develops a flow of greater than or equal to 400 gpm in the test flow path with a system head corresponding to reactor vessel operating pressure when steam is being supplied to the turbine at 1000 + 20, - 80 psig.*

* The provisions of Specification 4.0.4 are not applicable provided the surveillance is performed within 24 hours after reactor steam pressure is adequate to perform the test.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

c. At least once per 18 months by:

1. Performing a system functional test which includes simulated automatic actuation and restart+ and verifying that each automatic valve in the flow path actuates to its correct position, but may exclude actual injection of coolant into the reactor vessel.

2. Verifying that the system will develop a flow of greater than or equal to 400 gpm in the test flow path when steam is supplied to the turbine at a pressure of 150 ± 15 psig.*

3. Verifying that the suction for the RCIC system is automatically transferred from the condensate storage tank to the suppression pool on a condensate storage tank water level-low signal.

---

* The provisions of Specifications 4.0.4 are not applicable provided the surveillance is performed within 24 hours after reactor steam pressure is adequate to perform the tests.

\+ Automatic restart on a low water level signal which is subsequent to a high water level trip.

3/4.3.7 REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION

The reactor core isolation cooling system actuation instrumentation is provided to initiate actions to assure adequate core cooling in the event of reactor isolation from its primary heat sink and the loss of feedwater flow to the reactor vessel without providing actuation of any of the emergency core cooling equipment.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 68 TO FACILITY LICENSE NO. DPR-71 AND

AMENDMENT NO. 94 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 June 23, 1983, 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 proposed changes would modify the Technical Specifications (TS) by adding Limiting Conditions for Operation and Surveillance Requirements to the pertinent instrumentation associated with the modification to the Reactor Core Isolation Cooling system (RCIC). The changes were proposed at the request of the Commission by Generic Letter No. 83-02, dated January 10, 1983. These changes to the TS are necessary to fully implement certain recommendations set forth in NUREG-0737 "Clarification of TMI Action Plan Requirements," Items II.K.3.13 and II.K.3.22.

2.0 Background

The June 23, 1983 submittal responded to 12 NUREG-0737 items. Of these, only Item 2, Limit Overtime (I.A.1.3), Item 7, Reporting SV and RV Failures and Challenges (II.K.3.3), Item 8, RCIC Restart and RCIC Suction (II.K.3.13 and II.K.3.22), Item 9, Isolation of HPCI and RCIC Modification (II.K.3.15) and Item 11, Common Reference Level (II.K.3.27) required Technical Specifications at this time. Items 2 and 7 are being processed as part of an administrative amendment request submitted July 28, 1981 and December 10, 1983 and updated in a letter dated December 29, 1983, Item 9 is being processed in response to a March 16, 1982 amendment request which is being revised in the June 23, 1983 request and is currently being rerevised and Item 11 Technical Specifications have alrady been issued as Amendment Nos. 52 and 57 for Brunswick Units 1 and 2, respectively. The remainder of the items identified in the NRC letter dated January 10, 1983 (Items 1, 3, 4, 5, 6, 10 and 12) do not require an action at this time. Thus, these amendments only involve Technical Specifications for Item 8, RCIC Restart and RCIC Suction (II.K.3.13 and II.K.3.22).

8404110181 840320
PDR ADOCK 05000324
P PDR

3.0 Evaluation

Items II.K.3.13 and II.K.3.22 of NUREG-0737 recommended modifications to the RCIC system such that: (1) The system will restart on subsequent low water level after it has been terminated by a high water level signal; and (2) RCIC system suction will automatically switchover from the condensate storage tank to the suppression pool when the condensate storage tank level is low.

The RCIC system is provided to assure adequate core cooling in the event of reactor isolation from its primary heat sink and the loss of feedwater flow to the reactor vessel without requiring actuation of any of the emergency core cooling system equipment. The RCIC system is actuated on a low-low reactor vessel water level (low level 2) signal and by manual initiation.

In the standby readiness mode, the RCIC pump suction is aligned to the condensate storage tank (CST) with the suppression pool as a redundant source of water. On low CST level, the RCIC pump suction automatically transfers to the suppression pool. RCIC system operation will continue, unless tripped, until a reactor vessel high water level signal is received. This signal results in the closure of the F045 RCIC steam supply valve, returning the system to the standby readiness mode. This allows the RCIC system to automatically restart on the receipt of a subsequent low-low reactor vessel water level signal.

We have reviewed the licensee's submittal and find that the Technical Specifications proposed by the licensee meet the recommendation of TMI Items II.K.3.13 and II.K.3.22 and, are therefore acceptable.

4.0 Environmental Considerations

We have determined that the amendments do not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendments involve an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR 51.5(d)(4), that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

5.0 Conclusions

We have concluded, based on the considerations discussed above, that: (1) 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: J. Carter, D. Hoffman and M. Grotenhuis

Dated: March 20, 1984