



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

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-325

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 33
License No. DPR-71

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Carolina Power & Light Company dated November 5, 1980, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's 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 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:

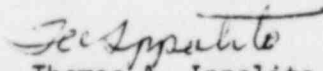
(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 33, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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3. This license amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Thomas A. Ippolito, Chief
Operating Reactors Branch #2
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 23, 1980

ATTACHMENT TO LICENSE AMENDMENT NO. 33

FACILITY OPERATING LICENSE NO. DPR-71

DOCKET NO. 50-325

Remove the following pages and replace with identically numbered pages.

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The underlined pages are overleaf pages and are provided for convenience.

REACTIVITY CONTROL SYSTEMS

FOUR CONTROL ROD GROUP SCRAM INSERTION TIMES

LIMITING CONDITION FOR OPERATION

3.1.3.4 The average scram insertion time, from the fully withdrawn position, for the three fastest control rods in each group of four control rods arranged in a two-by-two array, based on de-energization of the scram pilot valve solenoids as time zero, shall not exceed any of the following:

<u>Position Inserted From Fully Withdrawn</u>	<u>Average Scram Insertion Time</u>
46	0.398 seconds
36	0.954 seconds
26	2.120 seconds
6	3.800 seconds

APPLICABILITY: CONDITIONS 1 and 2.

ACTION:

With the average scram insertion times of the control rods exceeding the above limits, operation may continue and the provisions of Specification 3.0.4 are not applicable provided:

- a. The control rods with the slower than average scram insertion times are declared inoperable,
- b. The requirements of Specification 3.1.3.1 are satisfied, and
- c. The Surveillance Requirements of Specification 4.1.3.2.c are performed at least once per 92 days when operation is continued with three or more control rods with slow scram insertion times;

Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.4 All control rods shall be scram time tested from the fully withdrawn position as required by Specification 4.1.3.2.

POOR ORIGINAL

CONTROL ROD SCRAM ACCUMULATORS

LIMITING CONDITION FOR OPERATION

3.1.3.5 All control rod scram accumulators shall be OPERABLE.

APPLICABILITY: CONDITIONS 1, 2 and 5*.

ACTION:

- a. In CONDITION 1 or 2 with one control rod scram accumulator inoperable, the provisions of Specification 3.0.4 are not applicable and operation may continue, provided that within 8 hours:
 1. The inoperable accumulator is restored to OPERABLE status, or
 2. The control rod associated with the inoperable accumulator is declared inoperable, and the requirements of Specification 3.1.3.1 are satisfied.

Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.

- b. In CONDITION 5* with a withdrawn control rod scram accumulator inoperable, fully insert the affected control rod and electrically disarm the directional control valves within one hour. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.1.3.5 The control rod scram accumulators shall be determined OPERABLE:

- a. At least once per 7 days by verifying that the pressure and leak detectors are not in the alarmed condition, and
- b.** At least once per 18 months by performance of a:
 1. CHANNEL FUNCTIONAL TEST of the leak detectors (C11-LS-129-xxxx), and
 2. CHANNEL CALIBRATION of the pressure detectors (C11-PS-130-xxxx).

*At least the accumulator associated with each withdrawn control rod. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

**For the performance of this surveillance scheduled to be completed by February 10, 1981, a onetime-only exemption is allowed to extend this surveillance until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.

REACTIVITY CONTROL SYSTEMS

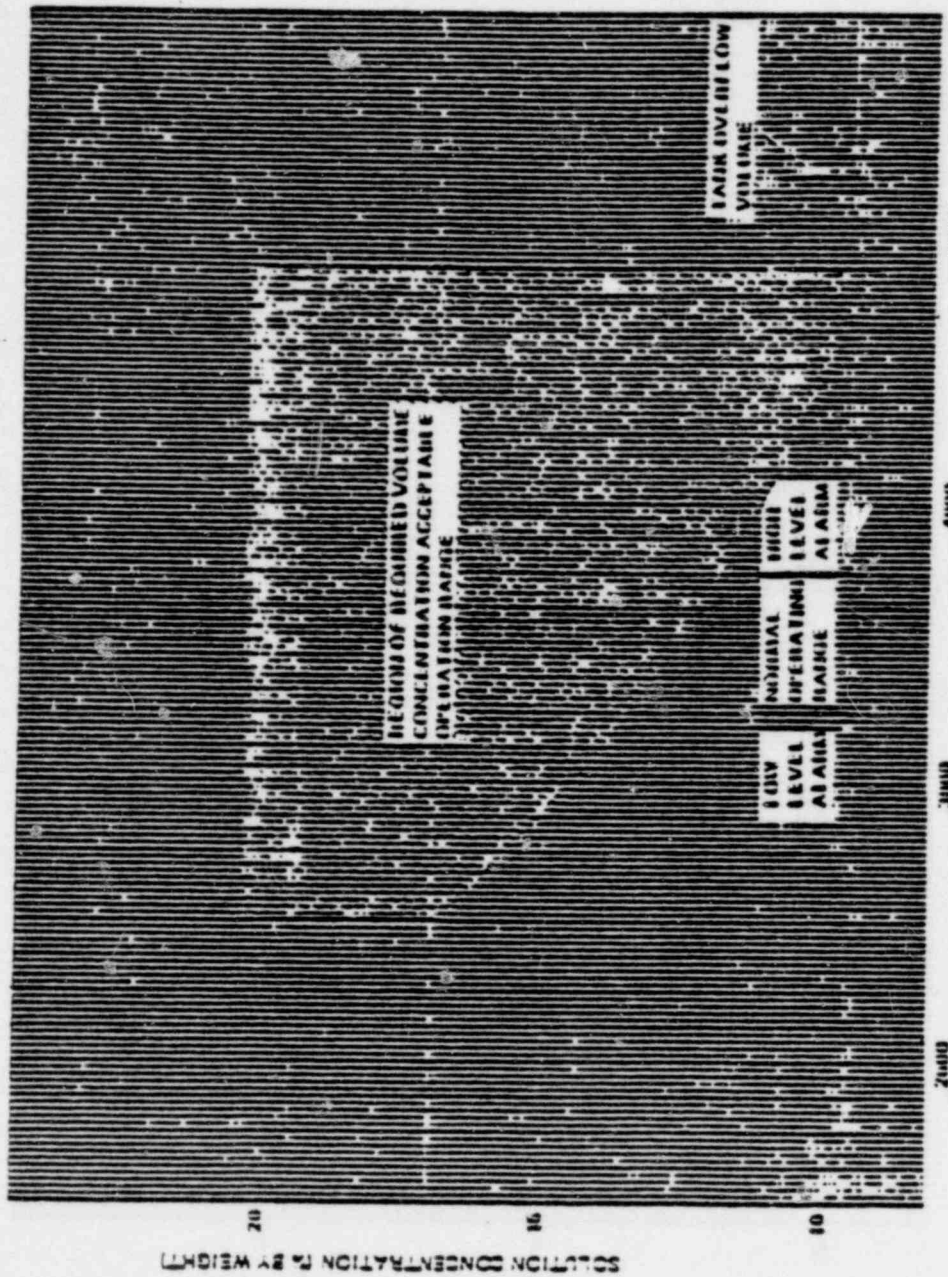
SURVEILLANCE REQUIREMENTS

4.1.5 The standby liquid control system shall be demonstrated OPERABLE:

- a. At least once per 24 hours by verifying that:
 1. The volume and temperature of the sodium pentaborate solution are within the limits of Figures 3.1.5-1 and 3.1.5-2, and
 2. The heat tracing circuit is OPERABLE.
- b. At least once per 31 days by:
 1. Starting each pump and recirculating demineralized water to the test tank,
 2. Verifying the continuity of the explosive charge, and
 3. Determining the concentration of boron in solution by chemical analysis. This test shall also be performed anytime water or boron is added to the solution or when the solution temperature drops below the limit established in Figure 3.1.5-2.
- c. At least once per 18 months during shutdown by:
 - 1.* Initiating one of the standby liquid control system loops, including an explosive valve, and verifying that a flow path from the pumps to the reactor pressure vessel is available by pumping demineralized water into the reactor vessel. The replacement charge for the explosive valve shall be from the same manufactured batch as the one fired or from another batch which has been certified by having one of that batch successfully fired. Both injection test loops shall be tested in 36 months.
 - 2.* Demonstrating that the minimum flow requirement of 41.2 gpm at a pressure of 1190 psig is met.
 3. Demonstrating that the pump relief valve setpoint is 1400 ± 50 psig.

*For the performance of this surveillance scheduled to be completed by February 25, 1981, a onetime-only exemption is allowed to extend this surveillance until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.

POOR ORIGINAL



NET VOLUME OF SOLUTION IN TANK (GALS)
BORNEO PENTAGONATE SOLUTION VOLUME CONCENTRATION REQUIREMENTS
Figure 3.15.1

INSTRUMENTATION

3/4.3.2 ISOLATION ACTUATION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.2 The isolation actuation instrumentation channels shown in Table 3.3.2-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.2-2 and with ISOLATION SYSTEM RESPONSE TIME as shown in Table 3.3.2-3.

APPLICABILITY: As shown in Table 3.3.2-1.

ACTION:

- a. With an isolation actuation instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.2-2, declare the channel inoperable and place the inoperable channel in the tripped condition until the channel is restored to OPERABLE status with its trip setpoint adjusted consistent with the Trip Setpoint value.
- b. With the requirements for the minimum number of OPERABLE channels not satisfied for one trip system, place at least one inoperable channel in the tripped condition within one hour.
- c. With the requirements for the minimum number of OPERABLE channels not satisfied for both trip systems, place at least one inoperable channel in at least one trip system* in the tripped condition within one hour and take the ACTION required by Table 3.3.2-1.
- d. The provisions of Specification 3.0.3 are not applicable in OPERATIONAL CONDITION 5.

SURVEILLANCE REQUIREMENTS

4.3.2.1 Each isolation actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.2-1.

4.3.2.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months and shall include calibration of time delay relays and timers necessary for proper functioning of the trip system.

*If both channels are inoperable in one trip system, select at least one inoperable channel in that trip system to place in the tripped condition, except when this would cause the Trip Function to occur.

INSTRUMENTATION

SURVEILLANCE REQUIREMENTS (Continued)

4.3.2.3 The ISOLATION SYSTEM RESPONSE TIME of each isolation function shown in Table 3.3.2-3 shall be demonstrated to be within its limit at least once per 18 months*. Each test shall include at least one logic train such that both logic chains are tested at least once per 36 months and one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific isolation function.

*For the performance of this surveillance on item 1-e of Table 3.3.2-3, scheduled to be completed by February 6, 1981, a onetime-only exemption is allowed to extend this surveillance until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.

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. <u>SHUTDOWN COOLING SYSTEM ISOLATION</u>				
a. Reactor Vessel Water - Low, Level #1 (B21-LIS-N017A,B,C,D)	D	M	R	1, 2, 3
b. Reactor Steam Dome Pressure - High (B32-PS-N018A,B)	NA	S/U*, M	R	1, 2, 3

*If not performed within the previous 31 days.

BRUNSWICK-UNIT 1

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Amendment No. 22, 28, 33

JUN 11 1980

INSTRUMENTATION

3/4.3.3 EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3 The Emergency Core Cooling System (ECCS) actuation instrumentation shown in Table 3.3.3-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.3-2 and with EMERGENCY CORE COOLING SYSTEM RESPONSE TIME as shown in Table 3.3.3-3.

APPLICABILITY: As shown in Table 3.3.3-1.

ACTION:

- a. With an ECCS actuation instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.3-2, declare the channel inoperable and place the inoperable channel in the tripped condition until the channel is restored to OPERABLE status with its trip setpoint adjusted consistent with the Trip Setpoint value.
- b. With one or more ECCS actuation instrumentation channels inoperable, take the ACTION required by Table 3.3.3-1.
- c. The provisions of Specification 3.0.3 are not applicable in OPERATIONAL CONDITION 5.

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each ECCS actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.3-1.

4.3.3.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months and shall include calibration of time delay relays and timers necessary for proper functioning of the trip system.

4.3.3.3 The ECCS RESPONSE TIME of each ECCS function shown in Table 3.3.3-3* shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one logic train such that both logic trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once every N times 12 months where N is the total number of redundant channels in a specific ECCS function.

*For the ECCS response time test for Items 1 and 2 of Table 3.3.3-3 scheduled for completion by February 21, 1981, and February 19, 1981, respectively, a onetime-only exemption is allowed to extend this test until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.

TABLE 4.3.3-1

EMERGENCY CORE COOLING SYSTEM 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>
1. CORE SPRAY SYSTEM				
a. Reactor Vessel Water Level - Low, Level #3 (B21-LIS-N031A,B,C,D)	D	M	R	1, 2, 3, 4, 5
b. Reactor Steam Dome Pressure - Low (B21-PS-N021A,B,C,D)	NA	M	Q	1, 2, 3, 4, 5
c. Drywell Pressure - High (E11-PS-N011A,B,C,D)	NA	M	Q	1, 2, 3
d. Time Delay Relay	NA	R	R	1, 2, 3, 4, 5
e. Bus Power Monitor (E21-K1A,B)	NA	R	NA	1, 2, 3, 4, 5
2. LPCI MODE OF RHR SYSTEM				
a. Drywell Pressure - High (E11-PS-N011A,B,C,D)	NA	M	Q	1, 2, 3
b. Reactor Vessel Water Level - Low, Level #3 (B21-LIS-N031A,B,C,D)	D	M	R	1, 2, 3, 4*, 5*
c. Reactor Vessel Shroud Level (B21-LITS-N036 and B21-LITS-N037)	NA	M	Q	1, 2, 3, 4*, 5*
d. Reactor Steam Dome Pressure - Low (B21-PS-N021A,B,C,D)				
1. RHR Pump Start and LPCI Injection Valve Actuation	NA	M	Q	1, 2, 3, 4*, 5*
2. Recirculation Loop Pump Discharge Valve Actuation	NA	M	Q	1, 2, 3, 4*, 5*
e. RHR Pump Start-Time Delay Relay	NA	R	R	1, 2, 3, 4*, 5*
f. Bus Power Monitor (E11-K106A,B)	NA	R**	NA	1, 2, 3, 4*, 5*

*Not applicable when two core spray system subsystems are OPERABLE per Specification 3.5.3.1.

**For the channel functional test scheduled to be completed by February 25, 1981, a onetime-only exemption is allowed to extend this test until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.

TABLE 4.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM 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>
3. LPCI SYSTEM				
a. Reactor Vessel Water Level - Low Level #2 (B21-LIS-N031A,B,C,D)	D	H	R	1, 2, 3
b. Drywell Pressure-High (E11-PS-N011A,B,C,D)	NA	H	Q	1, 2, 3
c. Condensate Storage Tank Level - Low (E41-LS-N002, E41-LS-N003)	NA	H	Q	1, 2, 3
d. Suppression Chamber Water Level - High (E41-LSH-N015A,B)	NA	H	Q	1, 2, 3
e. Bus Power Monitor (E41-K55 and E41-K56)	NA	R	NA	1, 2, 3
4. ADS				
a. Drywell Pressure-High (E11-PS-N010A,B,C,D)	NA	H	Q	1, 2, 3
b. Reactor Vessel Water Level - Low, Level #3 (B21-LIS-N031A,B,C,D)	D	H	R	1, 2, 3
c. ADS Timer (B21-TDPU-K5A,B)	NA	R	R	1, 2, 3
d. Core Spray Pump Discharge Pressure - High (E21-PS-N008A,B and E21-PS-N009A,B)	NA	H	Q	1, 2, 3
e. RIHR (LPCI MODE) Pump Discharge Pressure - High (E11-PS-N016A,B,C,D and E11-PS-N020A,B,C,D)	NA	H	Q	1, 2, 3
f. Bus Power Monitor (B21-K1A,B)	NA	R	NA	1, 2, 3

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Amendment No. 22, 33

APR 4 1979

TABLE 4.3.5.2-1

REMOTE SHUTDOWN MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT AND INSTRUMENT NUMBER	CHANNEL CHECK	CHANNEL CALIBRATION
1. Reactor Vessel Pressure (C32-PI-3332 and C32-PT-3332)	M	Q
2. Reactor Vessel Water Level (B21-LI-3331, B21-LI-R604AX, B21-LT-3331, B21-LT-N026A, B21-LT-N017D-3 and B21-LSH-N017D-3)	M	Q
3. Suppression Chamber Water Level (CAC-LI-3342 and CAC-LT-3342)	M	R
4. Suppression Chamber Water Temperature (CAC-TR-778-7)	M	R*
5. Drywell Pressure (CAC-PI-3341 and CAC-PT-3341)	M	Q
6. Drywell Temperature (CAC-TR-778-1,3,4)	M	R*
7. Drywell Oxygen Concentration (CAC-AI-1259-2)	M	Q
8. Residual Heat Removal Head Spray Flow (E11-FI-3339 and E11-FI-3339)	M	Q
9. Residual Heat Removal System Flow (L11-FI-3338, E11-FI-3338 and E11-FY-3338)	M	Q
10. Residual Heat Removal Service Water Discharge Differential Pressure (E11-PDI-N002BX and E11-PDI-3344)	M	Q

*For verifying this channel calibration scheduled for completion by February 14, 1981, a onetime-only exemption is allowed to extend this calibration until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.

SPURSWICK-UNIT 1

3/4 3-49

Amendment No. 22, 29, 33

INSTRUMENTATION

POST-ACCIDENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.5.3 The post-accident monitoring instrumentation channels shown in Table 3.3.5.3-1 shall be OPERABLE.

APPLICABILITY: CONDITIONS 1 and 2.

ACTION:

- a. With the number of OPERABLE post-accident monitoring channels less than required by Table 3.3.5.3-1, either restore the inoperable channels to OPERABLE status within 31 days or be in at least HOT SHUTDOWN within the next 12 hours.
- b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.5.3 Each of the above required post-accident monitoring instrumentation channels shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3.5.3-1.

EMERGENCY CORE COOLING SYSTEMS

LOW PRESSURE COOLANT INJECTION SYSTEM

LIMITING CONDITION FOR OPERATION

3.5.3.2 Two independent Low Pressure Coolant Injection (LPCI) subsystems of the residual heat removal system shall be OPERABLE with each subsystem comprised of:

- a. Two pumps,
- b. An OPERABLE flow path capable of taking suction from the suppression pool and transferring the water to the reactor pressure vessel.

APPLICABILITY: CONDITIONS 1, 2, 3, 4* and 5*.

ACTION:

- a. In CONDITION 1, 2 or 3;
 1. With one LPCI subsystem or one LPCI pump inoperable, POWER OPERATION may continue provided both CSS subsystems are OPERABLE; restore the inoperable LPCI subsystem or pump to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
 2. With both LPCI subsystems inoperable, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the following 24 hours.
 3. With the LPCI system cross-tie valve open or power not removed from the valve operator, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the following 24 hours.
 4. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date.
- b. In CONDITION 4* or 5* with one or more LPCI subsystems inoperable, take the ACTION required by Specification 3.5.3.1. The provisions of Specification 3.0.3 are not applicable.

*Not applicable when two CSS subsystems are OPERABLE per Specification 3.5.3.1.

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS

4.5.3.2 Each LPCI subsystem shall be demonstrated OPERABLE:

- a. At least once per 31 days by:
 1. Verifying 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, and
 3. Verifying that the subsystem cross-tie valve is closed with power removed from the valve operator.
- b. At least once per 92 days by verifying each pair of LPCI pumps discharging to a common header can be started from the control room and develops a total flow of at least 17,000 gpm against a system head corresponding to a reactor vessel pressure of ≥ 20 psig.
- c. At least once per 18 months* by performing a system functional test which includes simulated automatic actuation of the system throughout its emergency operating sequence and verifying that each automatic valve in the flow path actuates to its correct position. Actual injection of coolant into the reactor vessel is excluded from this test.

*For the performance of this system functional test scheduled to be completed by February 25, 1981, a onetime-only exemption is allowed to extend this test until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.6.3.1 Each primary containment isolation valve specified in Table 3.6.3-1 shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of the cycling test, and verification of isolation time.

4.6.3.2 Each isolation valve specified in Table 3.6.3-1 shall be demonstrated OPERABLE during COLD SHUTDOWN or REFUELING at least once per 18 months* by verifying that on a containment isolation test signal each isolation valve actuates to its isolation position.

4.6.3.3 The isolation time of each power operated or automatic valve specified in Table 3.6.3-1 shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

4.6.3.4 Each reactor instrumentation system isolation valve shall be demonstrated OPERABLE at least once per 18 months by cycling each valve through at least one complete cycle of full travel.

*For the performance of this surveillance scheduled to be completed by February 25, 1981, a onetime-only exemption is allowed to extend this surveillance until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.

TABLE 3.6.3-1

PRIMARY CONTAINMENT ISOLATION VALVES

<u>VALVE FUNCTION</u>	<u>VALVE GROUP^{1/}</u>	<u>ISOLATION TIME (Seconds)</u>
Main steamline isolation valves B21-F022 A, B, C, D B21-F028 A, B, C, D	1	$3 \leq t \leq 5$
Main steamline drain isolation valves B21-F016 B21-F019	1	30
Reactor Water sample line isolation valves B32-F019 B32-F020	1	5
Drywell equipment drain discharge isolation valves G16-F019 G16-F020	2	20
Drywell floor drain discharge isolation valves G16-F003 G16-F004	2	20
TIP guide tube (Ball valve)	2	
Reactor water cleanup system isolation valves G31-F001 G31-F004	3*	35

1. See Specification 3.3.2. Table 3.3.2-1 for isolation signal that operates each valve group.

*Inboard isolation valve does not close on standby liquid control system initiation or reactor water cleanup system high temperature.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.6.4.1 Each drywell-suppression pool vacuum breaker shall be demonstrated OPERABLE:

- a. At least once per 31 days and after any discharge of steam to the suppression pool from any source, by exercising each vacuum breaker through one complete cycle and verifying that each vacuum breaker is closed as indicated by the position indication system.
- b. Whenever a vacuum breaker is in the open position, as indicated by the position indication system, by conducting a test that verifies that the differential pressure is maintained $> 1/2$ the initial ΔP for one hour without N_2 makeup.
- c. At least once per 18 months during shutdown by;
 - 1.* Verifying the opening setpoint, from the closed position, to be ≤ 0.5 psid,
 - 2.* Performance of a CHANNEL CALIBRATION that each position indicator indicates the vacuum breaker to be open if the vacuum breaker does not satisfy the ΔP test in 4.6.4.1.b, and
 3. Conducting a leak test at an initial differential pressure of 1 psig and verifying that the differential pressure does not decrease by more than 0.25 inches of water per minute for a 10 minute period.

*For the verifying of the opening setpoint and the performance of the channel calibration scheduled for completion by January 31, 1981, a onetime-only exemption is allowed to extend these inspections until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.

CONTAINMENT SYSTEMS

SUPPRESSION POOL - REACTOR BUILDING VACUUM BREAKERS

LIMITING CONDITION FOR OPERATION

3.6.4.2 All suppression pool-Reactor Building vacuum breakers shall be OPERABLE with an opening setpoint of ≤ 0.5 psid.

APPLICABILITY: CONDITIONS 1, 2 and 3.

ACTION:

With one suppression pool - Reactor Building vacuum breaker inoperable for opening but known to be in the closed position, restore the inoperable vacuum breaker to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.2 Each suppression pool-Reactor Building vacuum breaker shall be demonstrated OPERABLE:

a. At least once per 92 days by:

1. Manually verifying that each vacuum breaker check valve is free to open, and
2. Cycling each vacuum breaker butterfly valve through at least one complete cycle of full travel.

b. At least once per 18 months by:

1. Demonstrating that the force required to open each vacuum breaker check valve does not exceed 0.5 psid.
2. Demonstrating that the vacuum breaker butterfly valve opens at -0.45 ± 0.05 psid, drywell pressure going negative relative to Reactor Building pressure.
3. Visual inspection.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.6.5.2 Each secondary containment automatic isolation damper specified in Table 3.6.5.2-1 shall be demonstrated OPERABLE:

- a. At least once per 92 days by cycling each automatic isolation damper testable during plant operation through at least one complete cycle of full travel.
- b. Prior to returning the damper to service after maintenance, repair or replacement work is performed on the damper or its associated actuator, control or power circuit by performance of the cycling test and verification of isolation time.
- c. At least once per 18 months during COLD SHUTDOWN or REFUELING by:
 1. Cycling each automatic damper through at least one complete cycle of full travel and measuring the isolation time, and
 - 2.* Verifying that on a secondary containment isolation test signal each automatic damper actuates to its isolation position.

*For this verification scheduled to be completed by February 25, 1981, a onetime-only exemption is allowed to extend this verification until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.

TABLE 3.6.5.2-1

SECONDARY CONTAINMENT AUTOMATIC ISOLATION DAMPERS

<u>DAMPER FUNCTION</u>	<u>ISOLATION TIME (Seconds)</u>
1. Reactor Building Ventilation Supply Isolation Dampers	4
2. Reactor Building Ventilation Exhaust Isolation Dampers	4

POOR ORIGINAL

CONTAINMENT SYSTEMS

3/4.6.6 CONTAINMENT ATMOSPHERE CONTROL

STANDBY GAS TREATMENT SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.6.1 Two independent Standby Gas Treatment System subsystems shall be OPERABLE.

APPLICABILITY: CONDITIONS 1, 2, 3, 5 and *.

ACTION:

- a. With one standby gas treatment subsystem inoperable:
 1. In CONDITION 1, 2 or 3, restore the inoperable subsystem to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
 2. In CONDITION 5 or *, restore the inoperable subsystem to OPERABLE status within 31 days or suspend irradiated fuel handling in the secondary containment, CORE ALTERATIONS or operations that could reduce the SHUTDOWN MARGIN. The provisions of Specification 3.0.3 are not applicable.
- b. With both standby gas treatment subsystems inoperable:
 1. In CONDITION 1, 2 or 3, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
 2. In CONDITION 5 or *, suspend all irradiated fuel handling in the secondary containment, CORE ALTERATIONS or operations that could reduce the SHUTDOWN MARGIN. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.6.1 Each standby gas treatment subsystem shall be demonstrated OPERABLE:

- a. At least once per 31 days by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 hours with the heaters on automatic control.

When irradiated fuel is being handled in the secondary containment.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:
1. Verifying that the cleanup system satisfies the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a., C.5.c and C.5.d of Regulatory Guide 1.52, Revision 1, July 1976, and the system flow rate is $3000 \text{ cfm} \pm 10\%$.
 2. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 1, July 1976, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 1, July 1976.
 3. Verifying a system flow rate of $3000 \text{ cfm} \pm 10\%$ during system operation when tested in accordance with ANSI N510-1975.
- c. After every 720 hours of charcoal adsorber operation by verifying within 31 days after removal that a laboratory analysis of representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 1, July 1976, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 1, July 1976.
- d. At least once per 18 months by:
1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is < 8.5 inches Water Gauge while operating the filter train at a flow rate of $3000 \text{ cfm} \pm 10\%$.
 - 2.* Verifying that the filter train starts on each secondary containment isolation test signal.
 3. Verifying that the heaters will dissipate at least 15.2 kw when tested in accordance with ANSI N510-1975.

*For the performance of this surveillance scheduled to be completed by February 25, 1981, a onetime-only exemption is allowed to extend this surveillance until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove $> 99\%$ of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the system at a flow rate of 3000 cfm $\pm 10\%$

- f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove $\geq 99\%$ of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the system at a flow rate of 3000 cfm $\pm 10\%$.

CONTAINMENT SYSTEMS

CONTAINMENT ATMOSPHERE DILUTION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.6.2 The containment atmosphere dilution (CAD) system shall be OPERABLE with:

- a. An OPERABLE flow path capable of supplying nitrogen to the drywell, and
- b. A minimum supply of 4350 gallons of liquid nitrogen.

APPLICABILITY: CONDITION 1*.

ACTION:

With the CAD system inoperable, restore the CAD system to OPERABLE status within 31 days or be in at least STARTUP within the next 8 hours. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.6.2 The CAD system shall be demonstrated to be OPERABLE;

- a. At least once per 31 days by verifying that:
 1. The system contains a minimum of 4350 gallons of liquid nitrogen, and
 2. Each valve (manual, power operated or automatic) in the flow path not locked, sealed, or otherwise secured in position, is in its correct position.
- b. At least once per 18 months by:
 1. Cycling each power operated (excluding automatic) valve in the flow path not testable during plant operation through at least one complete cycle of full travel, and
 - 2.** Verifying that each automatic valve in the flow path actuates to its correct position on a Group 2 and 6 isolation test signal.

* When oxygen concentration is required to be < 4% per Specification 3.6.6.3.

**For the performance of this surveillance scheduled to be completed by February 25, 1981, a onetime-only exemption is allowed to extend this surveillance until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.

PLANT SYSTEMS

3/4.7.5 HYDRAULIC SNUBBERS

LIMITING CONDITION FOR OPERATION

3.7.5 All hydraulic snubbers shown in Table 3.7.5-1 shall be OPERABLE.

APPLICABILITY: CONDITIONS 1, 2 and 3

ACTION:

With one or more hydraulic snubbers inoperable, restore the inoperable snubber(s) to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.7.5.1 Hydraulic snubbers shown in Table 3.7.5-1 shall be demonstrated OPERABLE by the performance of the following augmented inservice inspection program and the requirements of Specification 4.0.5.

4.7.5.2 Each hydraulic snubber with seal material fabricated from ethylene propylene or other materials demonstrated compatible with the operating environment and approved as such by the NRC, shall be determined OPERABLE at least once after not less than 4 months but within 6 months of initial criticality and in accordance with the inspection schedule of Table 4.7.5-1 thereafter, by a visual inspection of the snubber. Visual inspections of the snubbers shall include, but are not necessarily limited to, inspection of the hydraulic fluid reservoirs, fluid connections, and linkage connections to the piping and anchors. Initiation of the Table 4.7.5-1 inspection schedule shall be made assuming the unit was previously at the 6 month inspection interval.

4.7.5.3 Each hydraulic snubber with seal material not fabricated from ethylene propylene or other materials demonstrated compatible with the operating environment shall be determined OPERABLE at least once per 31 days by a visual inspection of the snubber. Visual inspections of the snubbers shall include, but are not necessarily limited to, inspection of the hydraulic fluid reservoirs, fluid connections, and linkage connections to the piping and anchors.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.7.5.4 At least once per 18 months* during shutdown, a representative sample of at least 10 snubbers or at least 10% of all snubbers listed in Table 3.7.5-1, whichever is less, shall be selected and functionally tested to verify correct piston movement, lock up and bleed. Snubbers greater than 50,000 pound capacity may be excluded from functional testing requirements. Snubbers selected for functional testing shall be selected on a rotating basis except snubbers identified in Table 3.7.5-1 as either "Especially Difficult to Remove" or in "High Radiation Zones" may be exempted from functional testing provided these snubbers were demonstrated OPERABLE during previous functional tests. Snubbers found inoperable during functional testing shall be restored to OPERABLE status prior to resuming operation. For each snubber found inoperable during these functional tests, an additional minimum of 10% of all snubbers or 10 snubbers, whichever is less, shall also be functionally tested until no more failures are found or all snubbers have been functionally tested.

*For the inaccessible snubber functional inspection interval scheduled to end December 30, 1980, a onetime-only exemption is allowed to extend this inspection interval until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying the fuel level in the day fuel tank,
 3. Verifying the fuel transfer pump can be started and transfers fuel from the day tank to the engine mounted tank,
 4. Verifying the diesel starts from ambient condition and accelerates to at least 514 rpm in ≤ 10 seconds,
 5. Verifying the generator is synchronized, loaded to ≥ 1750 kw, and operates for ≥ 15 minutes, and
 6. Verifying the diesel generator is aligned to provide standby power to the associated emergency buses.
- b. At least once per 31 days by verifying the fuel level in the plant fuel storage tank.
- c. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-65, is within the acceptable limits specified in Table 1 of ASTM-D975-74 when checked for viscosity, water and sediment,
- d. At least once per 18 months during shutdown by:
1. Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service,
 - 2.* Verifying the generator capability to reject a load equal to one core spray pump without tripping,
 - 3.* Simulating a loss of offsite power in conjunction with an emergency core cooling system test signal, and:
 - a) Verifying de-energization of the emergency buses and load shedding from the emergency buses.
 - b) Verifying the diesel starts from ambient condition on the auto-start signal, energizes the emergency buses with permanently connected loads, energizes the auto-connected loads through the load sequence relays and operates for ≥ 5 minutes while its generator is loaded with the emergency loads.

*For the verification of this item scheduled for completion by February 20, 1981, a onetime-only exemption is allowed to extend this inspection until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4. Verifying that on the emergency core cooling system test signal, all diesel generator trips except engine over-speed, generator differential, low lube oil pressure, reverse power, loss of field and phase overcurrent with voltage restraint, are automatically bypassed.
5. Verifying the diesel generator operates for ≥ 60 minutes while loaded to ≥ 3500 kw.
- 6.* Verifying that the auto-connected loads to each diesel generator do not exceed the 2000 hour rating of 3850 kw.
- 7.* Verifying that the automatic load sequence relays are OPERABLE with each load sequence time within 10% of the required value.

*For the verification of this item scheduled for completion February 20, 1981, a onetime-only exemption is allowed to extend this inspection until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.8.2.3.2 Each 125-volt battery and charger shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying that:
 1. The electrolyte level of each pilot cell is between the minimum and maximum level indication marks,
 2. The pilot cell specific gravity, corrected to 77°F, is ≥ 1.18 ,
 3. The pilot cell voltage is ≥ 2.0 volts, and
 4. The overall battery voltage is ≥ 120 volts.
- b. At least once per 92 days by verifying that:
 1. The voltage of each connected cell is ≥ 2.0 volts under float charge and has not decreased more than 0.3 volts from the value observed during the original acceptance test,
 2. The specific gravity, corrected to 77°F, of each connected cell is ≥ 1.18 and has not decreased more than 0.04 from the value observed during the previous test, and
 3. The electrolyte level of each connected cell is between the minimum and maximum level indication marks.
- c. At least once per 18 months by verifying that:
 - 1.* The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration,
 2. The cell-to-cell and terminal connections are clean, tight, free of abnormal corrosion and coated with anti-corrosion material, and
 - 3.* The battery charger will supply at least 250 amperes at a minimum of 135 volts for at least 4 hours.

*For the verification of this item scheduled for completion by February 23, 1981, a onetime-only exemption is allowed to extend this inspection until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- d. At least once per 18 months, during shutdown, by verifying that either:
1. The battery capacity is adequate to supply and maintain in OPERABLE status all of the actual emergency loads for 8 hours when the battery is subjected to a battery service test, or
 - 2.* The battery capacity is adequate to supply a dummy load of the following profile while maintaining the battery terminal voltage \geq 105 volts.
 - a) During the initial 60 seconds of the test;
 - 1) Battery 1A-1 \geq 1042.42 amperes,
 - 2) Battery 1A-2 \geq 1211.90 amperes,
 - 3) Battery 1B-1 \geq 1089.06 amperes, and
 - 4) Battery 1B-2 \geq 1028.67 amperes.
 - b) During the remainder of the first 30 minutes of the test;
 - 1) Battery 1A-1 \geq 229.19 amperes,
 - 2) Battery 1A-2 \geq 159.10 amperes,
 - 3) Battery 1B-1 \geq 176.79 amperes, and
 - 4) Battery 1B-2 \geq 202.67 amperes.
 - c) During the remainder of the 8 hour test;
 - 1) Battery 1A-1 \geq 75.52 amperes,
 - 2) Battery 1A-2 \geq 50.34 amperes,
 - 3) Battery 1B-1 \geq 53.39 amperes, and
 - 4) Battery 1B-2 \geq 61.09 amperes.
 - 3.* At the completion of either of the above tests, the battery charger shall be demonstrated capable of recharging its battery at a rate of at least 200 amperes while supplying normal D.C. loads. The battery shall be charged to at least 95% capacity in \leq 24 hours.
- e. At least once per 60 months during shutdown by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. This performance discharge test shall be performed subsequent to the satisfactory completion of the required battery service test and after normal equalizer charge.

*For the verification of this item scheduled for completion by February 23, 1981, a onetime-only exemption is allowed to extend this inspection until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.



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

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-324

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 54
License No. DPR-62

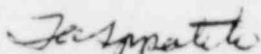
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Carolina Power & Light Company dated November 5, 1980, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the 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. 54, 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 issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Thomas A. Ippolito, Chief
Operating Reactors Branch #2
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 23, 1980

ATTACHMENT TO LICENSE AMENDMENT NO. 54

FACILITY OPERATING LICENSE NO. DPR-62

DOCKET NO. 50-324

Remove the following pages and replace with identically numbered pages

3/4 8-3 / 3/4 8-4

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying the fuel level in the day fuel tank,
 3. Verifying the fuel transfer pump can be started and transfers fuel from the day tank to the engine mounted tank,
 4. Verifying the diesel starts from ambient condition and accelerates to at least 514 rpm in ≤ 10 seconds,
 5. Verifying the generator is synchronized, loaded to ≥ 1750 kw, and operates for ≥ 15 minutes, and
 6. Verifying the diesel generator is aligned to provide standby power to the associated emergency buses.
- b. At least once per 31 days by verifying the fuel level in the plant fuel storage tank.
 - c. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-65, is within the acceptable limits specified in Table 1 of ASTM D975-74 when checked for viscosity, water and sediment,
 - d. At least once per 18 months during shutdown by:
 1. Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service,
 2. Verifying the generator capability to reject a load equal to one core spray pump without tripping,
 3. Simulating a loss of offsite power in conjunction with an emergency core cooling system test signal, and:
 - a) Verifying de-energization of the emergency buses and load shedding from the emergency buses.
 - b)* Verifying the diesel starts from ambient condition on the auto-start signal, energizes the emergency buses with permanently connected loads, energizes the auto-connected loads through the load sequence relays and operates for ≥ 5 minutes while its generator is loaded with the emergency loads.

*For the verification of this item scheduled for completion by February 23, 1981, a onetime-only exemption is allowed to extend this inspection until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4. Verifying that on the emergency core cooling system test signal, all diesel generator trips except engine over-speed, generator differential, low lube oil pressure, reverse power, loss of field and phase overcurrent with voltage restraint, are automatically bypassed.
5. Verifying the diesel generator operates for \geq 60 minutes while loaded to \geq 3500 kw.
6. Verifying that the auto-connected loads to each diesel generator do not exceed the 2000 hour rating of 3850 kw.
- 7.* Verifying that the automatic load sequence relays are OPERABLE with each load sequence time within 10% of the required value.

*For the verification of this item scheduled for completion by February 23, 1981, a onetime-only exemption is allowed to extend this inspection until "before the completion of the Spring 1981 outage," scheduled to commence in March, 1981.