

JUN 14 1974

Docket No. 50-261

for part of 17

Carolina Power & Light Company
ATTN: Mr. E. E. Utley, Vice President
Bulk Power Supply Department
336 Fayetteville Street
Raleigh, North Carolina 27602

Gentlemen:

The Commission has issued the enclosed Amendment No. 9 to Facility License No. DPR-23. This amendment includes Change No. 34 to the Technical Specifications, Appendix A as amended, and is in response to your request dated February 1, 1974, and subsequent letters dated April 12, 1974, April 29, 1974, May 17, 1974, and June 4, 1974.

In your application you requested authority to operate at up to 2300 Mwt core power; however, until the current review process is completed, this authority cannot be given. Therefore, this amendment concerns only those changes to the Technical Specifications needed to permit operation with the Fuel Cycle No. 3 at power levels up to 2200 Mwt.

In the course of our review, we concluded that certain other changes to the Technical Specifications were necessary to meet our Regulatory requirements. These changes have been made as part of Change No. 34 and include a requirement for reactor shutdown when the operating basis earthquake is exceeded and for the automatic initiation of the sodium hydroxide addition to the containment spray when the containment spray is initiated.

The safety considerations applicable to Amendment No. 9 are included in the Safety Evaluation Report prepared by the staff for power operation up to 2300 Mwt. A copy of this Safety Evaluation was forwarded to you on the date issued, May 20, 1974. The conclusions in that evaluation for operation at power levels up to 2300 Mwt are applicable to Amendment No. 9 for operation at power levels up to 2200 Mwt. Based on the results of that evaluation, and since this amendment does not increase the authorized power level of the facility, we have concluded that it does not involve a significant hazards consideration.

A copy of the Federal Register Notice relating to this action is also enclosed.

Sincerely,

Original Signed by
Karl Goller

Concurrences on attached yellow -

Karl R. Goller, Assistant Director
for Operating Reactors
Directorate of Licensing

OFFICE >					
SURNAME >					
DATE >					

Docket No. 50-261

Carolina Power & Light Company
ATTN: Mr. E. E. Utley, Vice President
Bulk Power Supply Department
336 Fayetteville Street
Raleigh, North Carolina 27602

*This action was reviewed by R. Giambusso on 6/14/74
We determined that the amendment should be signed
on 6/14/74 in view of the plant being ready to
assume operation on 6/15/74, even though OGC
concurrence could not be obtained in time. We
concluded that the safety issues related to the
action have been properly evaluated.*

*Douglas Scott
6/14/74*

Gentlemen:

The Commission has issued the enclosed Amendment No. 9 to Facility License No. DPR-23. This amendment includes Change No. 34 to the Technical Specifications, Appendix A as amended, and is in response to your request dated February 1, 1974, and subsequent letters dated April 12, 1974; April 29, 1974; May 17, 1974; and June 4, 1974.

In your application you requested authority to operate at up to 2300 Mwt core power; however, until the current review process is completed, this authority cannot be given. Therefore, this amendment concerns only those changes to the Technical Specifications needed to permit operation with the Fuel Cycle No. 3 at power levels up to 2200 Mwt. A copy of this Safety Evaluation was forwarded to you on the date issued, May 20, 1974.

In the course of our review, we concluded that certain other changes to the Technical Specifications were necessary to meet our Regulatory requirements. These changes have been made as part of Change No. 34 and include a requirement for reactor shutdown when the operating basis earthquake is exceeded and for the automatic initiation of the sodium hydroxide addition to the containment spray when the containment spray is initiated.

The safety considerations applicable to Amendment No. 9 are included in the Safety Evaluation Report prepared by the staff for power operation up to 2300 Mwt. The conclusions in that evaluation for operation at power levels up to 2300 Mwt are applicable to Amendment No. 9 for operation at power levels up to 2200 Mwt. Based on the results of that evaluation, and since this amendment does not increase the authorized power level of the facility, we have concluded that it does not involve a significant hazards consideration.

A copy of the Federal Register Notice relating to this action is also enclosed.

Sincerely,

Karl R. Goller, Assistant Director
for Operating Reactors
Directorate of Licensing

OFFICE >	L:ORB-1	L:ORB-1	OGC	L:AD/ORs	
x7434 SURNAME >	DScott	RAPurple		KRG KRGoller	Rg
DATE >	6/14/74	6/14/74	6/174	6/14/74	

JUN 14 1974

Enclosures:

- 1. Amendment No. 9
- 2. Federal Register Notice

cc w/encs:

G. F. Trowbridge, Esquire
 Shaw, Pittman, Potts & Trowbridge
 910 - 17th Street, N. W.
 Washington, D. C. 20006

John D. Whisenhunt, Esquire
 Bridges and Whisenhunt
 Bridges Building
 P. O. Box 26
 Florence, South Carolina 29501

Hartsville Memorial Library
 Home and Fifth Avenues
 Hartsville, South Carolina 29550

Mr. Dave Hopkins
 Environmental Protection Agency
 1421 Peachtree Street, N. E.
 Atlanta, Georgia 30309

Mr. Elmer Whitten
 State Clearinghouse
 Office of the Governor
 Division of Administration
 1205 Pendleton Street
 Columbia, South Carolina 29201
 (w/copies of CP&L incoming)

Mr. McCuen Morrell, Chairman
 Darlington County Board of
 Supervisors
 County Courthouse
 Darlington, South Carolina 29532

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 DScott
 SATeets
 RJSchemel

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CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-261

H. B. ROBINSON STEAM GENERATING PLANT UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 9
License No. DPR-23

1. The Atomic Energy Commission ("the Commission") has found that:
 - A. The application for amendment by Carolina Power & Light Company ("the licensee") dated February 1, 1974, 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 license, 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. Prior public notice of this amendment is not required since the amendment does not involve a significant hazards consideration.
2. Accordingly, paragraph 3.B of Facility License No. DPR-23 is hereby amended to read as follows:

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"B. Technical Specifications

The Technical Specifications contained in Appendix A, attached to Facility Operating License No. DPR-23 are revised as indicated in the attachment to this license amendment. The Technical Specifications, as revised, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications, as revised."

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

FOR THE ATOMIC ENERGY COMMISSION

Original Signed by
Karl Goller

Karl R. Goller, Assistant Director
for Operating Reactors
Directorate of Licensing

Attachment:
Change No. 34 to Appendix A
Technical Specifications

Date of Issuance: JUN 14 1974

OFFICE →						
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DATE →						

ATTACHMENT TO LICENSE AMENDMENT NO. 9

CHANGE NO. 34 TO APPENDIX A TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NO. DPR-23

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-261

Delete pages 1-2, 2.1-1, 2.1-2, 2.3-2, 3.3-3, 3.10-1, 3.10-2, 3.10-3, 3.12-1, 4.11-1, and 4.11-2 and Figure 3.10-1 and insert the replacement pages that are attached.

UNITED STATES ATOMIC ENERGY COMMISSION

DOCKET NO. 50-261

CAROLINA POWER & LIGHT COMPANY

NOTICE OF ISSUANCE OF FACILITY LICENSE AMENDMENT

Notice is hereby given that the U. S. Atomic Energy Commission ("the Commission") has issued Amendment No. 9 to Facility Operating License No. DPR-23 issued to Carolina Power & Light Company which revised Technical Specifications for operation of the H. B. Robinson Steam Generating Plant Unit No. 2, located in Darlington County, Hartsville, South Carolina. The amendment is effective as of its date of issuance.

The amendment permits operation with Fuel Cycle No. 3 at 2200 megawatts (thermal).

The application for the amendment complies with the standards and requirements of the Atomic Energy Act, as amended ("the Act"), and the Commission's rules and regulations, and the Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment.

For further details with respect to this action, see (1) the application for amendment dated February 1, 1974, (2) Amendment No. 9

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to License No. DPR-23 and Change No. 34, and (3) the Commission's related Safety Evaluation dated May 20, 1974. All of these are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C. and at the Hartsville Memorial Library, Home and Fifth Avenues, Hartsville, South Carolina.

A copy of items (2) and (3) may be obtained upon request sent to the United States Atomic Energy Commission, Washington, D. C. 20545, Attention: Deputy Director for Reactor Projects, Directorate of Licensing - Regulation.

JUN 14 1974

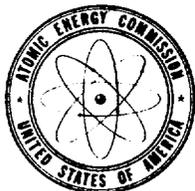
Dated at Bethesda, Maryland, this

FOR THE ATOMIC ENERGY COMMISSION

Original signed by:
Robert A. Purple

Robert A. Purple, Chief
Operating Reactors Branch #1
Directorate of Licensing

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SURNAME >						
DATE >						



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

June 14, 1974

Docket No. 50-261

Carolina Power & Light Company
ATTN: Mr. E. E. Utley, Vice President
Bulk Power Supply Department
336 Fayetteville Street
Raleigh, North Carolina 27602

Gentlemen:

The Commission has issued the enclosed Amendment No. 9 to Facility License No. DPR-23. This amendment includes Change No. 34 to the Technical Specifications, Appendix A as amended, and is in response to your request dated February 1, 1974, and subsequent letters dated April 12, 1974, April 29, 1974, May 17, 1974, and June 4, 1974.

In your application you requested authority to operate at up to 2300 MWt core power; however, until the current review process is completed, this authority cannot be given. Therefore, this amendment concerns only those changes to the Technical Specifications needed to permit operation with the Fuel Cycle No. 3 at power levels up to 2200 MWt.

In the course of our review, we concluded that certain other changes to the Technical Specifications were necessary to meet our Regulatory requirements. These changes have been made as part of Change No. 34 and include a requirement for reactor shutdown when the operating basis earthquake is exceeded and for the automatic initiation of the sodium hydroxide addition to the containment spray when the containment spray is initiated.

The safety considerations applicable to Amendment No. 9 are included in the Safety Evaluation Report prepared by the staff for power operation up to 2300 MWt. A copy of this Safety Evaluation was forwarded to you on the date issued, May 20, 1974. The conclusions in that evaluation for operation at power levels up to 2300 MWt are applicable to Amendment No. 9 for operation at power levels up to 2200 MWt. Based on the results of that evaluation, and since this amendment does not increase the authorized power level of the facility, we have concluded that it does not involve a significant hazards consideration.

A copy of the Federal Register Notice relating to this action is also enclosed.

Sincerely,

A handwritten signature in cursive script that reads "Karl R. Goller".

Karl R. Goller, Assistant Director
for Operating Reactors
Directorate of Licensing

June 14, 1974

Enclosures:

1. Amendment No. 9
2. Federal Register Notice

cc w/encls:

G. F. Trowbridge, Esquire
Shaw, Pittman, Potts & Trowbridge
910 - 17th Street, N. W.
Washington, D. C. 20006

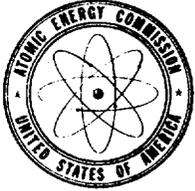
John D. Whisenhunt, Esquire
Bridges and Whisenhunt
Bridges Building
P. O. Box 26
Florence, South Carolina 29501

Hartsville Memorial Library
Home and Fifth Avenues
Hartsville, South Carolina 29550

Mr. Dave Hopkins
Environmental Protection Agency
1421 Peachtree Street, N. E.
Atlanta, Georgia 30309

Mr. Elmer Whitten
State Clearinghouse
Office of the Governor
Division of Administration
1205 Pendleton Street
Columbia, South Carolina 29201
(w/copies of CP&L incoming)

Mr. McCuen Morrell, Chairman
Darlington County Board of
Supervisors
County Courthouse
Darlington, South Carolina 29532



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-261

H. B. ROBINSON STEAM GENERATING PLANT UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 9
License No. DPR-23

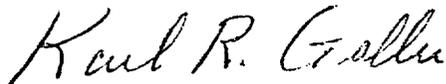
1. The Atomic Energy Commission ("the Commission") has found that:
 - A. The application for amendment by Carolina Power & Light Company ("the licensee") dated February 1, 1974, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended ("the Act"), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the license, 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. Prior public notice of this amendment is not required since the amendment does not involve a significant hazards consideration.
2. Accordingly, paragraph 3.B of Facility License No. DPR-23 is hereby amended to read as follows:

"B. Technical Specifications

The Technical Specifications contained in Appendix A, attached to Facility Operating License No. DPR-23 are revised as indicated in the attachment to this license amendment. The Technical Specifications, as revised, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications, as revised."

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

FOR THE ATOMIC ENERGY COMMISSION



Karl R. Goller, Assistant Director
for Operating Reactors
Directorate of Licensing

Attachment:

Change No. 34 to Appendix A
Technical Specifications

Date of Issuance: June 14, 1974

ATTACHMENT TO LICENSE AMENDMENT NO. 9

CHANGE NO. 34 TO APPENDIX A TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NO. DPR-23

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-261

Delete pages 1-2, 2.1-1, 2.1-2, 2.3-2, 3.3-3, 3.10-1, 3.10-2, 3.10-3, 3.12-1, 4.11-1, and 4.11-2 and Figure 3.10-1 and insert the replacement pages that are attached.

1.2.6 Refueling Operation

Any operation involving movement of core components when there is fuel in the containment vessel and the pressure vessel head is unbolted or removed.

1.2.7 Operating Basis Earthquake

The operating basis earthquake is that earthquake which involves a ground acceleration of 0.10 g horizontally and 0.067 g vertically.

1.2.8 Safe Shutdown Earthquake

The safe shutdown earthquake is that earthquake which involves a ground acceleration of 0.20 g horizontally and 0.133 g vertically.

1.3 Operable

A system or component is operable when it is capable of performing its intended function within the required range.

1.4 Protection Instrumentation Channel

An arrangement of components and modules as required to generate a single protective action signal when required by a plant condition. A channel loses its identity where single action signals are combined.

1.5 Degree of Redundancy

The difference between the number of operable channels and the number of channels which when tripped will cause an automatic system trip.

1.6 Instrumentation Surveillance

1.6.1 Channel Check

A qualitative determination of acceptable operability by observation of channel behavior during operation. This determination shall include comparison of the channel with other independent channels measuring the same variable.

2.0 SAFETY LIMITS AND LIMITING SAFETY SYSTEM SETTINGS

2.1 SAFETY LIMIT, REACTOR CORE

Applicability:

Applies to the limiting combinations of thermal power, Reactor Coolant System pressure, coolant temperature, and flow when the reactor is critical.

Objective:

To maintain the integrity of the fuel cladding.

Specification:

- a. The combination of thermal power level, coolant pressure, and coolant temperature shall not exceed the limits shown in Figure 2.1-1 when full flow from three reactor coolant pumps exists and shall not exceed the limits shown in Figure 2.1-2 when the full flow from two reactor coolant pumps exists.
- b. When full flow from one reactor coolant pump exists, the thermal power level shall not exceed 20%, the coolant pressure shall remain between 1820 psig and 2400 psig, and the Reactor Coolant System average temperature shall not exceed 590^oF.
- c. When natural circulation exists, the thermal power level shall not exceed 12%, the coolant pressure shall remain between 2135 psig and 2400 psig, and the ~~Reactor Coolant System~~ average temperature shall not exceed 620^oF.
- d. The safety limit is exceeded if the combination of Reactor Coolant System average temperature and thermal power level is at any time above the appropriate pressure line in Figures 2.1-1 or 2.1-2 or if the thermal power level, coolant pressure, or Reactor Coolant System average temperature violates the limits specified above.

(DELETE)

Basis:

To maintain the integrity of the fuel cladding and prevent fission product release, it is necessary to prevent overheating of the cladding under all operating conditions. This is accomplished by maintaining the

hot regions of the core within the nucleate boiling regime of heat transfer, wherein the heat transfer coefficient is very large and the clad surface temperature is only a few degrees Fahrenheit above the coolant saturation temperature. The upper boundary of the nucleate boiling regime is termed departure from nucleate boiling (DNB) and at this point there is a sharp reduction of the heat transfer coefficient, which would result in high clad temperatures and the possibility of clad failure. DNB is not, however, an observable parameter during reactor operation. Therefore, the observable parameters, thermal power, reactor coolant temperature and pressure, have been related to DNB through the L-Grid DNB correlation. The L-Grid DNB correlation has been developed to predict the DNB flux and the location of DNB for axially uniform and non-uniform heat flux distributions. The local DNB heat flux ratio, defined as the ratio of the heat flux that would cause DNB at a particular core location to the local heat flux, is indicative of the margin to DNB. The minimum value of the DNB ratio, DNBR, during normal operational transients and anticipated transients (those transients listed on page 14.1-1 of the FSAR) is limited to 1.30. A DNB ratio of 1.30 corresponds to a 95% probability at a 95% confidence level that DNB will not occur and is chosen as an appropriate margin to DNB for all operating conditions. (1) The DNB ratio limit of 1.30 is a conservative design limit which is used at the basis for setting core safety limits. Based on rod bundle DNB tests, no fuel rod damage is expected at this DNB ratio or greater.

The curves of Figure 2.1-1 which show the allowable power level decreasing with increasing temperature at selected pressures for constant flow (three loop operation) represent the loci of points of thermal power, coolant system average temperature, and coolant system pressure for which the DNB ratio is not less than 1.30. The area where clad integrity is assured is below these lines. In order to completely specify limits at all power levels, arbitrary constant upper limits of average temperature are shown for each pressure at powers lower than approximately 75%. The temperature limits at low power are considerably more conservative than would be required if they were based upon a minimum DNB ratio of 1.30 but are such that the plant conditions required to violate the limits are precluded by

(d) Overtemperature ΔT

$$\leq \Delta T_o \{ K_1 - K_2 (T - 575.4) + K_3 (P - 2235) - f(\Delta I) \}$$

where:

ΔT_o = Indicated T at rated power, $^{\circ}F$

T = Average temperature, $^{\circ}F$

P = Pressurizer pressure, psig

$$K_1 = 1.1619$$

$$K_2 = -0.01035$$

$$K_3 = 0.0007978$$

and $f(\Delta I)$ is a function of the indicated difference between top and bottom detectors of the power-range nuclear ion chambers; with gains to be selected based on measured instrument response during plant startup tests such that:

- (1) For $(q_t - q_b)$ within +12% and -17% where q_t and q_b are percent power in the top and bottom halves of the core respectively, and $q_t + q_b$ is total core power in percent of rated power, $f(\Delta I) = 0$. For every 2.4% below rated power level, the permissible positive flux difference range is extended by +1 percent. For every 2.4% below rated power level; the permissible negative flux difference range is extended by -1 percent.
- (2) For each percent that the magnitude of $(q_t - q_b)$ exceeds +12% in a positive direction, the ΔT trip setpoint shall be automatically reduced by 2.4% of the value of ΔT at rated power.
- (3) For each percent that the magnitude of $(q_t - q_b)$ exceeds -17%, the ΔT trip setpoint shall be automatically reduced by 2.4% of the value of ΔT at rated power.

(e) Overpower ΔT

$$\leq \Delta T_o \{ K_4 - K_5 \frac{dT}{dt} - K_6 (T - T') - f(\Delta I) \}$$

where

ΔT_o = Indicated ΔT at rated power, $^{\circ}F$

T = Average temperature, $^{\circ}F$

- c. If one flow path including valves of the safety injection or residual heat removal system is found to be inoperable during normal reactor operation, the reactor may remain in operation for a period not to exceed 24 hours, provided one other flow path is demonstrated to be operable prior to initiating repairs. The hot leg injection paths of the Safety Injection System, including valves, are not subject to the requirements of this specification.

3.3.1.3 When the reactor is in the hot shutdown condition, the requirements of 3.3.1.1 and 3.3.1.2 shall be met. Except that the accumulators may be isolated, and in addition, any one component as defined in 3.3.1.2 may be inoperable for a period equal to the time period specified in the subparagraphs of 3.3.1.2 plus 48 hours, after which the plant shall be placed in the cold shutdown condition utilizing normal operating procedures.

3.3.2 Containment Cooling and Iodine Removal Systems

3.3.2.1 The reactor shall not be made critical, except for low temperature physics tests, unless the following conditions are met:

- a. The spray additive tank contains not less than 2505 gal. of ~~solution with a sodium hydroxide~~ concentration of not less than 30% by weight.
- b. Two containment spray pumps are operable.
- c. Four fan cooler units are operable.
- d. All essential features, including valves, controls, dampers, and piping associated with the above components are operable.
- e. The system which automatically initiates the sodium hydroxide addition to the containment spray simultaneously to the actuation of the containment spray is operable.

3.3.2.2 During power operation, the requirements of 3.3.2.1 may be modified to allow any one of the following components to be inoperable. If the system is not restored to meet the requirements of 3.3.2.1 within the time period specified, the reactor shall be placed in the hot shutdown condition utilizing normal operating procedures. If the requirements of 3.3.2.1 are not satisfied within an additional 48 hours, the reactor shall be placed in the cold shutdown condition utilizing normal operating procedures.

- a. If one fan cooler unit or the flow path for a fan cooler unit becomes inoperable during normal reactor operation, the reactor may remain in operation for a period not to exceed 24 hours, provided both containment spray pumps are demonstrated to be operable.

REQUIRED SHUTDOWN MARGINS, CONTROL ROD, AND POWER DISTRIBUTION LIMITS

Applicability:

Applies to the required shutdown margins, operation of the control rods, and power distribution limits.

Objective:

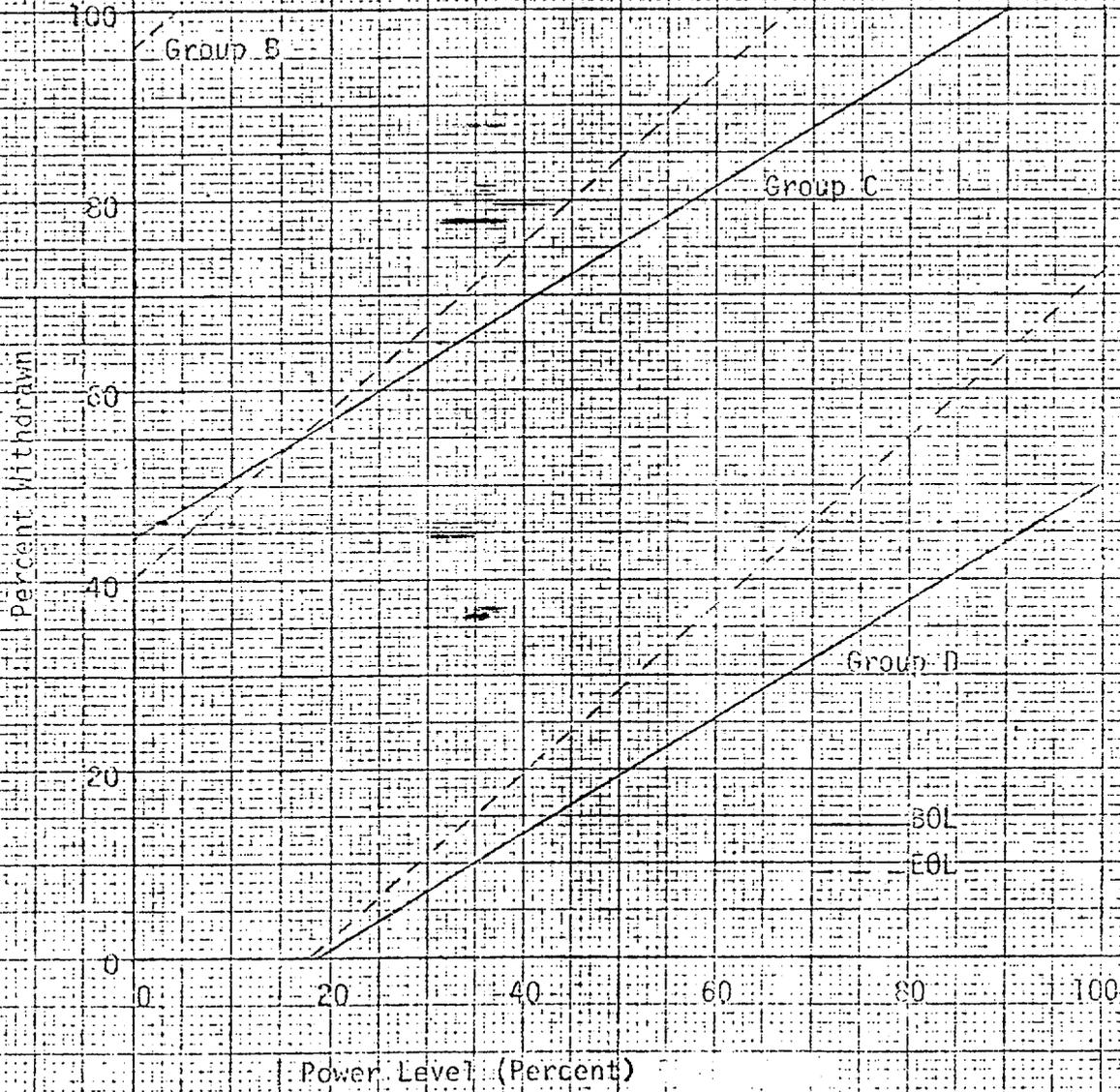
To ensure (1) core subcriticality after a reactor trip and during normal shutdown conditions, (2) limited potential reactivity insertions from a hypothetical control rod ejection, and (3) an acceptable core power distribution during power operation.

Specifications:

- 3.10.1 Full Length Control Rod Insertion Limits
- 3.10.1.1 (Deleted by Change No. 21 issued 7/6/73)
- 3.10.1.2 When the reactor is critical, except for physics tests and full length control rod exercises, the shutdown control rods shall be fully withdrawn.
- 3.10.1.3 When the reactor is critical, except for physics tests and full length control rod exercises, the control rods shall be no further inserted than the limits shown by the solid lines on Figure 3.10-1 for 3 loop or 2 loop operation.
- 3.10.1.4 After 50% of the second and subsequent cycles as defined by burnup, the limits shall be adjusted as a linear function of burnup toward the end-of-core life values as shown by the dotted lines on Figure 3.10-1.
- 3.10.1.5 Except for physics tests, if a part-length or full-length control rod is more than 15 inches out of alignment with its bank, then within two hours:
- a. Correct the situation, or
 - b. Determine by measurement the hot channel factors and apply Specification 3.10.2.1.1, or
 - c. Limit power to 70% of rated power for 3 loop operation or 45% of rated power for 2 loop operation.

(Delete)

Control Group Insertion Limits for
Three Loop or Two Loop Operation



3.10.1.6 Insertion limits do not apply during physics tests or during periodic exercise of individual rods. However, the shutdown margin indicated in Figure 3.10-2 must be maintained except for the low power physics test to measure control rod worth and shutdown margin. For this test the reactor may be critical with all but one full length control rod inserted and part length rods fully withdrawn. Prior to this test the withdrawn rod must be tested and shown to be capable of being tripped.

3.10.2 Power Distribution Limits

3.10.2.1 Limiting Values

3.10.2.1.1 Power distribution limits are expressed as hot channel factors. Limiting values at rated power are:

$$F_q^N = 2.57\{1 + 0.2(1 - P)\} \text{ in the flux difference range } -17 \text{ percent to } +12 \text{ percent}$$

$$F_{\Delta H}^N = 1.55\{1 + 0.2(1 - P)\}$$

Where P is the fraction of rated power at which the core is operating ($P \leq 1.0$).

If measured peaking factors exceed these values, the maximum allowable reactor power level and the nuclear overpower trip setpoint shall be reduced in direct proportion to the amount which F_q^N or $F_{\Delta H}^N$ exceeds the limiting values, whichever is more restrictive. If the $F_{\Delta H}^N$ or F_q^N cannot be reduced below the limiting values within twenty-four hours, the overpower ΔT and overtemperature ΔT trip setpoint shall be similarly reduced.

- 3.10.2.1.2 At all times the measured value of axial offset must either be between -17% and +12% or the overtemperature and overpower ΔT trip setpoints must be reduced as required in Specifications 2.3.1.2(d) and (e).
- 3.10.2.1.3 Following initial loading and each subsequent reloading, a power distribution map, using the Movable Detector System, shall be made to confirm that power distribution limits are met, in the full power configuration, before the plant is operated above 75% of rated power.
- 3.10.2.1.4 At regular monthly intervals, a power distribution map, using the Movable Detector System, shall be made to confirm that power distribution limits are met.
- 3.10.3 Quadrant Power Tilt Limits
- 3.10.3.1 Except for physics tests, whenever the indicated quadrant power tilt ratio exceeds 1.02, the tilt condition shall be eliminated within two hours or the following actions shall be taken:
- Restrict core power level and reset the power range high flux setpoint to be less two percent of rated values for every percent of indicated power tilt ratio exceeding 1.0, and
 - If the tilt condition is not eliminated after 24 hours, the power range high flux setpoint shall be reset to 55 percent of allowed power. Subsequent reactor operation would be permitted up to 50 percent power for the purpose of measurement and testing to identify the cause of the tilt condition.
- 3.10.3.2 Except for low power physics tests, if the indicated quadrant tilt exceeds 1.09 and there is simultaneous indication of a misaligned rod:
- the core power level and power range high flux setpoint shall be reduced by 2 percent of rated values for every one percent of indicated power tilt exceeding 1.0, and
 - if the tilt condition is not eliminated within two hours, the reactor shall be brought to a hot shutdown condition.
- 3.10.3.3 If the indicated quadrant tilt exceeds 1.09 and there is not simultaneous indication of rod misalignment, the reactor shall immediately be brought to a hot shutdown condition.

3.10.4 Rod Drop Time

3.10.4.1 The drop time of each control rod shall be no greater than 1.8 seconds at full flow and operating temperature from the beginning of rod motion to dashpot entry.

3.10.5 Part Length Control Rod Banks

3.10.5.1 The eight (8) part length control rods shall be configured under administrative control into one of the following part length rod configurations.

3.12

Seismic Shutdown

Applicability:

Applies to the limit of a seismic event for which power operation may continue.

Objective:

To ensure that damage resulting from a significant seismic event is evaluated before power operation is continued.

Specification:

When the strong-motion recorder indicates that the operating basis earthquake has been exceeded the reactor shall be shut-down and shall remain shutdown until inspection of the facility shows that no damage has been incurred which would jeopardize safe operation of the facility or until such damage is repaired.

Basis:

The reactor facility was designed such that, for ground motion less than the operating basis earthquake, those features of the nuclear power plant necessary for continued operation without undue risk to the health and safety of the public will remain functional. Any ground motion in excess of this results in an uncertainty as to the extent of the damage which must be resolved before continued operation can be considered safe. The requirement for shutdown and inspection after an earthquake exceeding the Operating Basis Earthquake is consistent with the requirements of Appendix A, 10 CFR Part 100.

(Deleted)

4.11-2

Change No. 34
Date: June 14, 1974

UNITED STATES ATOMIC ENERGY COMMISSION

DOCKET NO. 50-261

CAROLINA POWER & LIGHT COMPANY

NOTICE OF ISSUANCE OF FACILITY LICENSE AMENDMENT

Notice is hereby given that the U. S. Atomic Energy Commission ("the Commission") has issued Amendment No. 9 to Facility Operating License No. DPR-23 issued to Carolina Power & Light Company which revised Technical Specifications for operation of the H. B. Robinson Steam Generating Plant Unit No. 2, located in Darlington County, Hartsville, South Carolina. The amendment is effective as of its date of issuance.

The amendment permits operation with Fuel Cycle No. 3 at 2200 megawatts (thermal).

The application for the amendment complies with the standards and requirements of the Atomic Energy Act, as amended ("the Act"), and the Commission's rules and regulations, and the Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment.

For further details with respect to this action, see (1) the application for amendment dated February 1, 1974, (2) Amendment No. 9

to License No. DPR-23 and Change No. 34, and (3) the Commission's related Safety Evaluation dated May 20, 1974. All of these are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C. and at the Hartsville Memorial Library, Home and Fifth Avenues, Hartsville, South Carolina.

A copy of items (2) and (3) may be obtained upon request sent to the United States Atomic Energy Commission, Washington, D. C. 20545, Attention: Deputy Director for Reactor Projects, Directorate of Licensing - Regulation.

Dated at Bethesda, Maryland, this 14th day of June, 1974.

FOR THE ATOMIC ENERGY COMMISSION



Robert A. Purple, Chief
Operating Reactors Branch #1
Directorate of Licensing