April 4, 1994

Docket Nos. 50-413
and 50-414

Mr. David L. Rehn
Vice President, Catawba Site
Duke Power Company
4800 Concord Road
York, South Carolina 29745

Distribution

Docket File	D.Hagan MNB4702
NRC/Local PDRs	G.Hill(4) P1-37
PDII-3 Reading	C.Grimes 11F23
S.Varga	ACRS(10) P-135
D.Matthews	PA 17F2
R.Martin	OC/LFMB MNB4702
L.Berry	OGC 15B18
J.Johnson (Acting), RII	

Dear Mr. Rehn:

SUBJECT: ISSUANCE OF AMENDMENTS - CATAWBA NUCLEAR STATION, UNITS 1 AND 2 (TAC NOS. M87884 AND M87885)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 117 to Facility Operating License NPF-35 and Amendment No. 111 to Facility Operating License NPF-52 for the Catawba Nuclear Station, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated September 28, 1993 as supplemented February 17, 1994.

The amendments delete the portion of the 18-month surveillance requirement contained in TS 4.5.2.d associated with verifying that the decay heat removal system suction isolation valves automatically close on a reactor coolant system pressure signal. Also, an obsolete footnote to TS 4.5.2.e is being deleted. This footnote is no longer necessary since the first Unit 1 refueling outage is complete.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,
Original signed by:
Robert E. Martin, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 117 to NPF-35
2. Amendment No. 111 to NPF-52
3. Safety Evaluation

cc w/enclosures: See next page

subject to noted changes - SE. SE Turk 3/29/94

OFFICE	PDII-3/LA	PDII-3/PM	OGC	PDII-3/D	
NAME	L. BERRY	R. MARTIN	EHOLLER	D. MATTHEWS	
DATE	3/31/94	3/23/94	3/25/94	4/1/94	

OFFICIAL RECORD COPY FILE NAME: G:\CATAWBA\CAT87884.AMD

9404180259 940404
PDR ADOCK 05000413
P PDR

NRC FILE CENTER COPY

DF01

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

April 4, 1994

Docket Nos. 50-413
and 50-414

Mr. David L. Rehn
Vice President, Catawba Site
Duke Power Company
4800 Concord Road
York, South Carolina 29745

Dear Mr. Rehn:

SUBJECT: ISSUANCE OF AMENDMENTS - CATAWBA NUCLEAR STATION, UNITS 1 AND 2 (TAC NOS. M87884 AND M87885)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 117 to Facility Operating License NPF-35 and Amendment No. 111 to Facility Operating License NPF-52 for the Catawba Nuclear Station, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated September 28, 1993, as supplemented February 17, 1994.

The amendments delete the portion of the 18-month surveillance requirement contained in TS 4.5.2.d associated with verifying that the decay heat removal system suction isolation valves automatically close on a reactor coolant system pressure signal. Also, an obsolete footnote to TS 4.5.2.e is being deleted. This footnote is no longer necessary since the first Unit 1 refueling outage is complete.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Robert Martin

Robert E. Martin, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 117 to NPF-35
2. Amendment No. 111 to NPF-52
3. Safety Evaluation

cc w/enclosures:
See next page

Mr. David L. Rehn
Duke Power Company

Catawba Nuclear Station

cc:
Mr. Z. L. Taylor
Regulatory Compliance Manager
Duke Power Company
4800 Concord Road
York, South Carolina 29745

A. V. Carr, Esquire
Duke Power Company
422 South Church Street
Charlotte, North Carolina 28242-0001

J. Michael McGarry, III, Esquire
Winston and Strawn
1400 L Street, NW
Washington, DC 20005

North Carolina Municipal Power
Agency Number 1
1427 Meadowwood Boulevard
P. O. Box 29513
Raleigh, North Carolina 27626-0513

Mr. T. Richard Puryear
Nuclear Technical Services Manager
Westinghouse Electric Corporation
Carolinas District
2709 Water Ridge Parkway, Suite 430
Charlotte, North Carolina 28217

County Manager of York County
York County Courthouse
York, South Carolina 29745

Richard P. Wilson, Esquire
Assistant Attorney General
South Carolina Attorney General's
Office
P. O. Box 11549
Columbia, South Carolina 29211

Piedmont Municipal Power Agency
121 Village Drive
Greer, South Carolina 29651

Dayne H. Brown, Director
Division of Radiation Protection
N.C. Department of Environment,
Health and Natural Resources
P. O. Box 27687
Raleigh, North Carolina 27611-7687

Mr. Marvin Sinkule, Chief
Project Branch #3
U. S. Nuclear Regulatory Commission
101 Marietta Street, NW. Suite 2900
Atlanta, Georgia 30323

North Carolina Electric Membership
Corporation
P. O. Box 27306
Raleigh, North Carolina 27611

Senior Resident Inspector
Route 2, Box 179 N
York, South Carolina 29745

Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
101 Marietta Street, NW. Suite 2900
Atlanta, Georgia 30323

Max Batavia, Chief
Bureau of Radiological Health
South Carolina Department of
Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Mr. G. A. Copp
Licensing - EC050
Duke Power Company
P. O. Box 1006
Charlotte, North Carolina 28201-1006

Saluda River Electric
P. O. Box 929
Laurens, South Carolina 29360

Ms. Karen E. Long
Assistant Attorney General
North Carolina Department of Justice
P. O. Box 629
Raleigh, North Carlina 27602

Elaine Wathen, Lead REP Planner
Division of Emergency Management
116 West Jones Street
Raleigh, North Carolina 27603-1335

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

DUKE POWER COMPANY

NORTH CAROLINA ELECTRIC MEMBERSHIP CORPORATION

SALUDA RIVER ELECTRIC COOPERATIVE, INC.

DOCKET NO. 50-413

CATAWBA NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 117
License No. NPF-35

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment to the Catawba Nuclear Station, Unit 1 (the facility) Facility Operating License No. NPF-35 filed by the Duke Power Company, acting for itself, North Carolina Electric Membership Corporation and Saluda River Electric Cooperative, Inc. (licensees), dated September 28, 1993, as supplemented February 17, 1994, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as 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 set forth in 10 CFR Chapter I;

   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.

9404180266 940404
PDR ADOCK 05000413
P PDR

2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-35 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 117 , and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. Duke Power Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION

David B. Matthews, Director
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: April 4, 1994

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

DUKE POWER COMPANY

NORTH CAROLINA MUNICIPAL POWER AGENCY NO. 1

PIEDMONT MUNICIPAL POWER AGENCY

DOCKET NO. 50-414

CATAWBA NUCLEAR STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 111
License No. NPF-52

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment to the Catawba Nuclear Station, Unit 2 (the facility) Facility Operating License No. NPF-52 filed by the Duke Power Company, acting for itself, North Carolina Municipal Power Agency No. 1 and Piedmont Municipal Power Agency (licensees), dated September 28, 1993, as supplemented February 17, 1994, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as 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 set forth in 10 CFR Chapter I;

   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 hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-52 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 111 , and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. Duke Power Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION

David B. Matthews, Director
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: April 4, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 117

FACILITY OPERATING LICENSE NO. NPF-35

DOCKET NO. 50-413

AND

TO LICENSE AMENDMENT NO. 111

FACILITY OPERATING LICENSE NO. NPF-52

DOCKET NO. 50-414

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change.

Remove Pages	Insert Pages
3/4 5-6	3/4 5-6
3/4 5-7	3/4 5-7

SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

Valve Number	Valve Function	Valve Position
NI-162A	Cold Leg Recirc.	Open
NI-121A	Hot Leg Recirc.	Closed
NI-152B	Hot Leg Recirc.	Closed
NI-183B	Hot Leg Recirc.	Closed
NI-173A	Residual Heat Removal Pump Disch.	Open
NI-178B	Residual Heat Removal Pump Disch.	Open
NI-100B	Safety Injection Pump Suction from Refueling Water Storage Tank	Open
NI-147B	Safety Injection Pump Mini-flow	Open

b. At least once per 31 days by:

1) Verifying that the ECCS piping is full of water by venting the ECCS pump casings and accessible discharge piping high points, and

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.

c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:

1) For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and

2) Of the areas affected within containment at the completion of each containment entry when CONTAINMENT INTEGRITY is established.

d. At least once per 18 months by:

1) Verifying automatic interlock action of the residual heat removal system from the Reactor Coolant System by ensuring that with a simulated or actual Reactor Coolant System pressure signal greater than or equal to 425 psig the interlocks prevent the valves from being opened.

SURVEILLANCE REQUIREMENTS (Continued)

2) A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or abnormal corrosion.

e. At least once per 18 months, during shutdown, by:

1) Verifying that each automatic valve in the flow path actuates to its correct position on Safety Injection and Containment Sump Recirculation test signals, and

2) Verifying that each of the following pumps start automatically upon receipt of a Safety Injection test signal:

a) Centrifugal charging pump,

b) Safety Injection pump, and

c) Residual heat removal pump.

f. By verifying that each of the following pumps develops the indicated differential pressure when tested pursuant to Specification 4.0.5:

1) Centrifugal charging pump $\geq$ 2349 psid,

2) Safety Injection pump $\geq$ 1418 psid, and

3) Residual heat removal pump $\geq$ 165 psid.

g. By verifying the correct position of each electrical and/or mechanical stop for the following ECCS throttle valves:

1) Within 4 hours following completion of each valve stroking operation or maintenance on the valve when the ECCS subsystems are required to be OPERABLE, and

2) At least once per 18 months.

Centrifugal Charging Pump Injection Throttle Valve Number	Safety Injection Throttle Valve Number
NI-14	NI-164
NI-16	NI-166
NI-18	NI-168
NI-20	NI-170

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 117 TO FACILITY OPERATING LICENSE NPF-35

AND AMENDMENT NO. 111 TO FACILITY OPERATING LICENSE NPF-52

DUKE POWER COMPANY, ET AL.

CATAWBA NUCLEAR STATION, UNITS 1 AND 2

DOCKET NOS. 50-413 AND 50-414

1.0 INTRODUCTION

By letter dated September 28, 1993, as supplemented February 17, 1994, Duke Power Company, et al. (the licensee), submitted a request for changes to the Catawba Nuclear Station, Units 1 and 2, Technical Specifications (TS). The amendments delete the portion of the 18-month surveillance requirement contained in TS 4.5.2.d associated with verifying that the decay heat removal system suction isolation valves automatically close on a reactor coolant system pressure signal less than or equal to 560 psig. Issuance of the amendments, in effect, authorizes removal of the residual heat removal (ND) autoclosure interlock (ACI) circuitry. Also, an obsolete footnote to TS 4.5.2.e is being deleted. This footnote is no longer necessary since the first Unit 1 refueling outage is complete. The February 17, 1994, letter provided clarifying information that did not change the scope of the September 28, 1993, application and initial proposed no significant hazards consideration determination.

2.0 BACKGROUND

The ND System for each Catawba unit includes two isolation valves arranged in series of the inlet line between the high pressure NC System and the lower pressure ND System. The two motor-operated gate valves are normally closed but are opened for decay heat removal purposes once NC System pressure and temperature have been reduced to about 425 psig and 350 degrees F. Each isolation valve is interlocked with one of two independent NC System pressure signals. One interlock prevents the valves from being opened when NC System pressure exceeds an actual plant setpoint of about 385.5 psig. This interlock and its associated TS are not affected by the proposed amendments. When the valves are in the open position, the other interlock, known as the ACI, causes the valves to automatically close if NC System pressure increases to an actual setpoint of about 600 psig.

The Commission and industry have previously recognized the safety benefits of removing the ACI circuitry from the ND System. The Commission's case study on long-term decay heat removal, Case Study Report AEOD/C503, "Decay Heat Removal Problems at U.S. Pressurized Water Reactors," December 1985, recommended that consideration be given to removal of the ACI circuitry to minimize loss of

9404180269 940404
PDR ADOCK 05000413
P PDR

decay heat removal events. The case study recognized, however, that in view of the differences among plants, the effects of ACI removal upon plant safety would need to be evaluated on a plant-specific basis. Also, a study performed for the Commission by Brookhaven National Laboratory, NUREG/CR-5015, "Improved Reliability of Residual Heat Removal Capability in PWRs as Related to Resolution of Generic Issue 99," May 1988, listed several improvements to reduce the risk of loss of decay heat removal. One improvement was the removal of the ACI circuitry from ND Systems. Also, in Generic Letter (GL) 88-17, "Loss of Decay Heat Removal," the Commission requested that TS that restrict or limit the safety benefit of actions identified in GL 88-17 should be identified and that appropriate changes should be submitted. One of the items in GL 88-17 that could limit such safety benefits was the ACI.

In parallel with the Commission's activities, the Westinghouse Owners Group evaluated the removal of the ACI circuitry on Westinghouse designed plants and issued WCAP-11736, "Residual Heat Removal System Autoclosure Interlock Deletion Report for the Westinghouse Owners Group," Volumes 1 and 2, Revision 0.0, February 1988. WCAP-11736 documents the probabilistic analysis performed on the removal of the ACI circuitry in terms of (1) the likelihood of an interfacing loss-of-coolant accident (LOCA), (2) ND System availability, and (3) low temperature overpressurization concerns. The results show that (1) the frequency of an interfacing system LOCA decreases with the removal of the ACI circuitry from the ND System accompanied by the addition of a control room alarm and procedural enhancements, (2) removal of the ACI increases ND System availability, and (3) removal of the ACI from the ND System has no effect on heat input transients, but will result in a small, but not significant, increase in the frequency of occurrence for some types of mass input transients with a decrease in others. The net effect of ACI deletion from the ND System is a net improvement in safety.

3.0 EVALUATION

In support of the application for amendments, the licensee referenced WCAP-11736. This report was approved by the Commission's staff for reference purposes on August 8, 1989, subject to applications on a plant-specific basis demonstrating applicability of results and conclusions of the WCAP to that facility. Accordingly, the licensee's proposal justifies that the results and conclusions of WCAP-11736 are valid for Catawba Units 1 and 2 and describes how the improvements identified by the WCAP will be implemented at Catawba.

The hardware changes proposed for the Catawba Station will be the removal of the ACI function from the ND suction valves. The existing open permissive interlock, which has an actual setpoint of 385.5 psig, will remain intact. An alarm (i.e., an annunciator in the control room) will be added to each isolation valve which will actuate if the valve is not fully closed (i.e., if the valve is in the "open" or "intermediate" position) and if NC pressure is above the actual setpoint. The licensee has selected a setpoint of 440 psig because this value is well below the ND System design pressure of 600 psig and provides adequate notification of increasing NC pressure while avoiding

potential conflicting interaction with the open permissive setpoint of 385.5 psig. Valve position indication will be provided to the annunciator by the motor operator limit switch. The licensee prefers use of the limit switch because it provides a direct position indication that is independent of the motor control circuit.

The NRC has required two diverse means to monitor the position of the residual heat removal (ND) suction valves once the valves are closed and power is removed. In Reference 1 (from the licensee's September 9, 1993, application), the licensee indicated that an annunciator alarm was proposed to be added as a means of satisfying this requirement. In Reference 2, the licensee noted the other means would be satisfied by using the valve position indication on the Operator Aid Computer (OAC). Wiring changes will be made to ensure the affected computer points will remain functional following power lockout of the valves. Also, procedure changes will be made to reflect the monitoring of valve position.

The staff concludes that the proposed hardware changes for Catawba are acceptable. Accordingly, the staff concludes that removal of the ACI from the Catawba ND System isolation valves, along with removal of power from the valves, and implementation of a reliable alarm system with associated training and procedures, are in accordance with WCAP-11736 as approved by the Commission and GL 88-17. Moreover, these modifications and actions represent a net improvement in safety. Therefore, the proposed TS changes reflecting these modifications and actions are acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the South Carolina State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (59 FR 10004 dated March 2, 1994). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) 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 Contributor: W. Schwink

Date: April 4, 1994