

July 27, 1988

Docket Nos.: 50-413  
and 50-414

Mr. H. B. Tucker, Vice President  
Nuclear Production Department  
Duke Power Company  
422 South Church Street  
Charlotte, North Carolina 28242

Dear Mr. Tucker:

SUBJECT: ISSUANCE OF AMENDMENT NO. 49 TO FACILITY OPERATING LICENSE NPF-35  
AND AMENDMENT NO. 42 TO FACILITY OPERATING LICENSE NPF-52 - CATAWBA  
NUCLEAR STATION, UNITS 1 AND 2 (TACS 65709/65710)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 49 to Facility Operating License NPF-35 and Amendment No. 42 to Facility Operating License NPF-52 for the Catawba Nuclear Station, Units 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated June 29, 1987, as supplemented December 4, 1987, and April 1, 1988.

The amendments modify TS Table 4.3-1 "Reactor Trip System Instrumentation Surveillance Requirements" to delete the requirement to test the reactor coolant flow rates in the bypass loops in which Resistance Temperature Detectors are installed to measure the hot leg and cold leg temperatures.

A copy of the related safety evaluation supporting Amendment No. 49 to Facility Operating License NPF-35 and Amendment No. 42 to Facility Operating License NPF-52 is enclosed.

Notice of issuance of amendments will be included in the Commission's next bi-weekly Federal Register notice.

Sincerely,

Original signed by:

Kahtan N. Jabbour, Project Manager  
Project Directorate II-3  
Division of Reactor Projects I/II

Enclosures:

1. Amendment No. 49 to NPF-35
2. Amendment No. 42 to NPF-52
3. Safety Evaluation

cc w/enclosures:  
See next page

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S. J. R. S.

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DMatthews

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DATED: July 27, 1988

AMENDMENT NO. 49 TO FACILITY OPERATING LICENSE NPF-35 - Catawba Nuclear Station, Unit 1  
AMENDMENT NO. 42 TO FACILITY OPERATING LICENSE NPF-52 - Catawba Nuclear Station, Unit 2

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

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. 49  
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 June 29, 1987, as supplemented December 4, 1987, and April 1, 1988, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations 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.

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

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 49, are hereby incorporated into the license. The licensee 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

Original signed by:

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

Attachment:  
Technical Specification Changes

Date of Issuance: July 27, 1988

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LA:PDII-3  
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KJabbour:sw  
7/16/88

NRR:SRXB  
WHodges  
7/17/88

OGC  
myoung  
7/13/88

D:PDII-3  
DMatthews  
7/25/88



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

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. 42  
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 June 29, 1987, as supplemented December 4, 1987, and April 1, 1988, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations 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 attachments to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-52 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 42, are hereby incorporated into the license. The licensee 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

Original signed by:

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

Attachment:  
Technical Specification Changes

Date of Issuance: July 27, 1988

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LA:PDII-3  
MR000  
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PM:PDII-3  
KJambour:sw  
7/16/88

NRR:SRXB  
W. Hodges  
7/17/88

OGC  
7/13/88

D:PDII-3  
DMatthews  
7/25/88

ATTACHMENT TO LICENSE AMENDMENT NO. 49

FACILITY OPERATING LICENSE NO. NPF-35

DOCKET NO. 50-413

AND

TO LICENSE AMENDMENT NO. 42

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.

Amended Page

3/4 3-9

3/4 3-12

TABLE 4.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>		<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
1.	Manual Reactor Trip	N.A.	N.A.	N.A.	R	N.A.	1, 2, 3*, 4*, 5*
2.	Power Range, Neutron Flux						
	a. High Setpoint	S	D(2, 4), M(3, 4), Q(4, 6), R(4, 5)	M	N.A.	N.A.	1, 2
	b. Low Setpoint	S	R(4)	M	N.A.	N.A.	1###, 2
3.	Power Range, Neutron Flux, High Positive Rate	N.A.	R(4)	M	N.A.	N.A.	1, 2
4.	Power Range, Neutron Flux, High Negative Rate	N.A.	R(4)	M	N.A.	N.A.	1, 2
5.	Intermediate Range, Neutron Flux	S	R(4, 5)	S/U(1),M	N.A.	N.A.	1###, 2
6.	Source Range, Neutron Flux	S	R(4, 5)	S/U(1),M(9)	N.A.	N.A.	2##, 3, 4, 5 (
7.	Overtemperature $\Delta T$	S	R	M	N.A.	N.A.	1, 2
8.	Overpower $\Delta T$	S	R	M	N.A.	N.A.	1, 2
9.	Pressurizer Pressure-Low	S	R	M	N.A.	N.A.	1
10.	Pressurizer Pressure-High	S	R	M	N.A.	N.A.	1, 2
11.	Pressurizer Water Level-High	S	R	M	N.A.	N.A.	1
12.	Reactor Coolant Flow-Low	S	R	M	N.A.	N.A.	1

CATAMBA - UNITS 1 &amp; 2

3/4 3-9

Amendment No. 49 (Unit 1)  
Amendment No. 42 (Unit 2)



TABLE 4.3-1 (Continued)

TABLE NOTATIONS

- \* Only if the Reactor Trip System breakers happen to be closed and the Control Rod Drive System is capable of rod withdrawal.
- # Above P-9 (Reactor Trip on Turbine Trip Interlock) Setpoint.
- ## Below P-6 (Intermediate Range Neutron Flux Interlock) Setpoint.
- ### Below P-10 (Low Setpoint Power Range Neutron Flux Interlock) Setpoint.
- (1) If not performed in previous 7 days.
- (2) Comparison of calorimetric to excore power indication above 15% of RATED THERMAL POWER. Adjust excore channel gains consistent with calorimetric power if absolute difference is greater than 2%. The provisions of Specification 4.0.4 are not applicable for entry into MODE 2 or 1.
- (3) Single point comparison of incore to excore axial flux difference above 15% of RATED THERMAL POWER. Recalibrate if the absolute difference is greater than or equal to 3%. The provisions of Specification 4.0.4 are not applicable for entry into MODE 2 or 1.
- (4) Neutron detectors may be excluded from CHANNEL CALIBRATION.
- (5) Detector plateau curves shall be obtained, evaluated and compared to manufacturer's data. For the Intermediate Range and Power Range Neutron Flux channels the provisions of Specification 4.0.4 are not applicable for entry into MODE 2 or 1.
- (6) Incore - Excore Calibration, above 75% of RATED THERMAL POWER. The provisions of Specification 4.0.4 are not applicable for entry into MODE 2 or 1.
- (7) Each train shall be tested at least every 62 days on a STAGGERED TEST BASIS.
- (8) With power greater than or equal to the interlock setpoint the required ANALOG CHANNEL OPERATIONAL TEST shall consist of verifying that the interlock is in the required state by observing the permissive status light.
- (9) Monthly surveillance in MODES 3\*, 4\*, and 5\* shall also include verification that permissives P-6 and P-10 are in their required state for existing plant conditions by observation of the permissive status light.
- (10) Setpoint verification is not applicable.
- (11) At least once per 18 months and following maintenance or adjustment of the Reactor trip breakers, the TRIP ACTUATING DEVICE OPERATIONAL TEST shall include independent verification of the Undervoltage and Shunt trips.
- (12) Deleted
- (13) For Unit 1, CHANNEL CALIBRATION shall ensure that the filter time constant associated with Steam Generator Water Level Low-Low is adjusted to a value less than or equal to 1.5 seconds.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 49 TO FACILITY OPERATING LICENSE NPF-35  
AND AMENDMENT NO. 42 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

INTRODUCTION

By letter dated June 29, 1987, supplemented by letters dated December 4, 1987 and April 1, 1988, the licensee requested amendments to Facility Operating License Nos. NPF-35 and NPF-52 for the Catawba Nuclear Station, Units 1 and 2. The proposed amendments would revise Technical Specification (TS) Table 4.3-1, "Reactor Trip System Instrumentation Surveillance Requirements" to delete the requirement to test the reactor coolant flow rates in the bypass loops in which Resistance Temperature Detectors (RTDs) are installed to measure the hot leg and cold leg temperatures. The flow rates affect the time response of the temperature signals which are needed for reactor controls and protection. The revisions are applicable to Catawba Unit 1 only; however, Unit 2 is included administratively because the TSs for both Units are combined in one document.

The proposed amendments would be in effect only until the licensee completes the planned removal of the RTD bypass manifold in Unit 1 and the installation of the RTDs directly in the hot leg and cold leg piping. These plant modifications were authorized by license amendments issued February 17, 1988. The station modifications have already been completed for Unit 2 during its recent refueling outage. For Unit 1, they are scheduled to be completed during its fourth refueling outage in March 1990.

EVALUATION

The licensee justifies the proposed deletion of the bypass loop flow rate tests on the bases that (1) other means are available to indicate and measure these flows, and (2) a significant radiation dose would be avoided because the performance of the tests involves four workers spending four hours each in lower containment.

Individual low flow alarms with status lights for each reactor coolant loop bypass flow are provided on the main control board in the control room. The alarms and status lights provide the operator with immediate indication of a low flow condition (less than 90% of its initial value) in any bypass loop.

Since the initial measured values for all of the loop flows are well above the minimum acceptable flow rates, the annunciators would alarm well in advance of any loop flow rate dropping below the acceptance criterion flow rate. A quarterly channel calibration will be preformed on the control room low flow alarms, starting in September 1988.

Local indicators accessible during power operation are provided in the containment annulus to verify the total flow through the RTD bypass manifold for each loop. These flow indicators will be monitored on a quarterly basis to provide an alternative measurement of possible flow degradation.

Since initial operation of Unit 1 in December 1984, there have been no observations of flow diminution or blockage in the bypass loops, indicating a low potential for significant blockage before the March 1990 outage.

On the basis of its review of the information summarized above, the staff concludes that the deletion of the bypass flow rate tests will not significantly degrade the safety aspects of the RTD temperature measurement capability and that adequate systems are available to detect bypass flow degradation in the time period before the March 1990 power outage. Therefore, the proposed TS changes are acceptable.

#### ENVIRONMENTAL CONSIDERATION

These amendments involve changes to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20 and changes in surveillance requirements. The 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 exposure. The NRC staff has made a determination that the amendments involve no significant hazards consideration, and there has been no public comment on such finding. 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 these amendments.

#### CONCLUSION

The Commission made proposed determinations that the amendments involve no significant hazards consideration which were published in the Federal Register (52 FR 49223) on December 30, 1987, and (53 FR 17788) on May 18, 1988. The Commission consulted with the state of South Carolina. No public comments were received, and the state of South Carolina did not have any comments.

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: S. Kirslis, PD#II-3/DRP-I/II  
K. Jabbour, PD#II-3/DRP-I/II  
J. Zeiler, Region II

Dated: July 27, 1988

Mr. H. B. Tucker  
Duke Power Company

cc:

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

J. Michael McGarry, III, Esq.  
Bishop, Liberman, Cook, Purcell  
and Reynolds  
1200 Seventeenth Street, N.W.  
Washington, D. C. 20036

North Carolina MPA-1  
Suite 600  
3100 Smoketree Ct.  
P.O. Box 29513  
Raleigh, North Carolina 27626-0513

S. S. Kilborn  
Area Manager, Mid-South Area  
ESSD Projects  
Westinghouse Electric Corp.  
MNC West Tower - Bay 239  
P.O. Box 355  
Pittsburgh, Pennsylvania 15230

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

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

Piedmont Municipal Power Agency  
100 Memorial Drive  
Greer, South Carolina 29651

Mr. Michael Hirsch  
Federal Emergency Management Agency  
Office of the General Counsel  
Room 840  
500 C Street, S.W.  
Washington, D. C. 20472

Catawba Nuclear Station

North Carolina Electric Membership  
Corp.  
3400 Sumner Boulevard  
P.O. Box 27306  
Raleigh, North Carolina 27611

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

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

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

Mr. Heyward G. Shealy, Chief  
Bureau of Radiological Health  
South Carolina Department of Health  
and Environmental Control  
2600 Bull Street  
Columbia, South Carolina 29201

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

Spence Perry, Esquire  
General Counsel  
Federal Emergency Management Agency  
Room 840  
500 C Street  
Washington, D. C. 20472

Brian P. Cassidy, Regional Counsel  
Federal Emergency Management Agency,  
Region I  
J. W. McCormack POCH  
Boston, Massachusetts 02109