

September 30, 1986

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. 13 to Facility Operating License NPF-35  
and Amendment No. 5 to Facility Operating License NPF-52

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 13 to Facility Operating License NPF-35 and Amendment No. 5 to Facility Operating License NPF-52 for the Catawba Nuclear Station, Units 1 and 2. These amendments consist of changes to the Technical Specifications in response to your application dated September 10, 1985, and supplemented November 27, 1985, January 7, and July 31, 1986.

These amendments modify Technical Specifications for Catawba Unit 1 to lower the low-low reactor trip signal for the steam generator level when the reactor is operating above 30% power level. The amendments are effective as of their date of issuance. A copy of the related safety evaluation supporting Amendment No. 13 to Facility Operating License NPF-35 and Amendment No. 5 to Facility Operating License NPF-52 is enclosed.

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

Sincerely,

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Kahtan Jabbour, Project Manager  
PWR Project Directorate #4  
Division of PWR Licensing-A

Enclosures:

1. Amendment No. 13 to NPF-35
2. Amendment No. 5 to NPF-52
3. Safety Evaluation

cc w/encl:  
See next page

DISTRIBUTION:  
See attached page

PWR#4/DPWR-A  
MDuncan/rad  
09/10/86

KNT  
PWR#4/DPWR-A  
KJabbour  
09/10/86

SW ant  
PWR#4/DPWR-A  
BJYoungblood  
09/24/86

8610100612 860930  
PDR ADOCK 05000413  
PDR

Mr. H. B. Tucker  
Duke Power Company

Catawba Nuclear Station

cc:

William L. Porter, Esq.  
Duke Power Company  
P.O. Box 33189  
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

Mr. L.L. Williams  
Power Systems Division  
Westinghouse Electric Corp.  
P.O. Box 355  
Pittsburgh, Pennsylvania 15230

NUS Corporation  
2536 Countryside Boulevard  
Clearwater, Florida 33515

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

Mark S. Calvert, Esq.  
Bishop, Liberman, Cook,  
Purcell & Reynolds  
1200 17th Street, N.W.  
Washington, D. C. 20036

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

North Carolina Electric Membership  
Corp.  
3333 North 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  
Associate General Counsel  
Federal Emergency Management Agency  
Room 840  
500 C Street  
Washington, D. C. 20472

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



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. 13  
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 10, 1985, as supplemented November 27, 1985, January 7, and July 31, 1986, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, as amended, 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 set forth in 10 CFR Chapter I;
  - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public;
  - 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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PDR ADDCK 05000413  
P PDR

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 and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 13 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

151  
Kahtan Jabbour, Project Manager  
PWR Project Directorate No. 4  
Division of PWR Licensing-A

Attachment:  
Technical Specification Changes

Date of Issuance: September 30, 1986

PWR#4/DPWR-A  
MDuncan/rad  
09/10/86

KNT  
PWR#4/DPWR-A  
KJabbour  
09/10/86

OGC-Beth  
11/15/85  
09/10/85  
w/initial changes

Wart  
PWR#4/DPWR-A  
BJYoungblood  
09/24/86



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. 5  
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 10, 1985, as supplemented November 27, 1985, January 7, and July 31, 1986, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, as amended, 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 set forth in 10 CFR Chapter I;
  - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public;
  - 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 and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 5, 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

151

Kahtan Jabbour, Project Manager  
PWR Project Directorate No. 4  
Division of PWR Licensing-A

Attachment:  
Technical Specification Changes

Date of Issuance: September 30, 1986

PWR#4/DPWR-A  
MDuncan/rad  
09/10/86

KNT  
PWR#4/DPWR-A  
KJabbour  
09/10/86

OGC-Beth  
JOHNSON  
09/12/86

w/infed chgs

NW, out  
PWR#4/DPWR-A  
BJYoungblood  
09/24/86

ATTACHMENT TO LICENSE AMENDMENT NO. 13

FACILITY OPERATING LICENSE NO. NPF-35

DOCKET NO. 50-413

AND TO

LICENSE AMENDMENT NO. 5

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. The corresponding overleaf pages are also provided to maintain document completeness.

<u>Amended</u> <u>Page</u>	<u>Overleaf</u> <u>Page</u>
2-5	2-6
3/4 3-8	3/4 3-7
3/4 3-10	3/4 3-9
3/4 3-12	3/4 3-11
3/4 3-31	3/4 3-32

TABLE 2.2-1 (Continued)  
REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TOTAL ALLOWANCE (TA)</u>	<u>Z</u>	<u>SENSOR ERROR (S)</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
13. Steam Generator Water Level Low-Low a. Unit 1	17	14.2	1.5	>17% of span from 0% to 30% RTP* increasing linearly to > 40.0% of span from 30% to 100% RTP*	>15.3% of span from 0% to 30% RTP* increasing linearly to >38.3% of span from 30% to 100% RTP*
b. Unit 2	17	14.2	1.5	>17% of narrow range span	>15.3% of narrow range span
14. Undervoltage - Reactor Coolant Pumps	8.57	0	1.0	>77% of bus voltage (5082 volts) with a 0.7s response time	>76% (5016 volts)
15. Underfrequency - Reactor Coolant Pumps	4.0	0	1.0	>56.4 Hz with a 0.2s response time	>55.9 Hz
16. Turbine Trip					
a.1 Low Control Valve EH Pressure-Low (Unit 1)	N.A.	N.A.	N.A.	>550 psig	>500 psig
a.2 Stop Valve EH Pressure-Low (Unit 2)	N.A.	N.A.	N.A.	>550 psig	>500 psig
b. Turbine Stop Valve Closure	N.A.	N.A.	N.A.	>1% open	>1% open
17. Safety Injection Input from ESF	N.A.	N.A.	N.A.	N.A.	N.A.

\*RTP = RATED THERMAL POWER



TABLE 2.2-1 (Continued)  
REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>(TA)</u>	<u>Z</u>	<u>TOTAL ALLOWANCE (S)</u>	<u>TRIP SETPOINT</u>	<u>SENSOR ERROR ALLOWABLE VALUE</u>
18. Reactor Trip System Interlocks					
a. Intermediate Range Neutron Flux, P-6	N.A.	N.A.	N.A.	$\geq 1 \times 10^{-10}$ amps	$\geq 6 \times 10^{-11}$ amps
b. Low Power Reactor Trips Block, P-7					
1) P-10 input	N.A.	N.A.	N.A.	$\leq 10\%$ of RTP*	$\leq 12.2\%$ of RTP*
2) P-13 input	N.A.	N.A.	N.A.	$\leq 10\%$ RTP* Turbine Impulse Pressure Equivalent	$\leq 12.2\%$ RTP* Turbine Impulse Pressure Equivalent
c. Power Range Neutron Flux, P-8	N.A.	N.A.	N.A.	$\leq 48\%$ of RTP*	$\leq 50.2\%$ of RTP*
d. Power Range Neutron Flux, P-9	N.A.	N.A.	N.A.	$\leq 69\%$ of RTP*	$\leq 70\%$ of RTP*
e. Power Range Neutron Flux, P-10	N.A.	N.A.	N.A.	$\geq 10\%$ of RTP*	$\geq 7.8\%$ of RTP*
f. Power Range Neutron Flux, Not P-10	N.A.	N.A.	N.A.	$\leq 10\%$ of RTP*	$\leq 12.2\%$ of RTP*
g. Turbine Impulse Chamber Pressure, P-13	N.A.	N.A.	N.A.	$\leq 10\%$ RTP* Turbine Impulse Pressure Equivalent	$\leq 12.2\%$ RTP* Turbine Impulse Pressure Equivalent
19. Reactor Trip Breakers	N.A.	N.A.	N.A.	N.A.	N.A.
20. Automatic Trip and Interlock Logic	N.A.	N.A.	N.A.	N.A.	N.A.

\*RTP = RATED THERMAL POWER

TABLE 3.3-2REACTOR TRIP SYSTEM INSTRUMENTATION RESPONSE TIMES

<u>FUNCTIONAL UNIT</u>	<u>RESPONSE TIME</u>
1. Manual Reactor Trip	N.A.
2. Power Range, Neutron Flux	$\leq 0.5$ second*
3. Power Range, Neutron Flux, High Positive Rate	N.A.
4. Power Range, Neutron Flux, High Negative Rate	$\leq 0.5$ second*
5. Intermediate Range, Neutron Flux	N.A.
6. Source Range, Neutron Flux	N.A.
7. Overtemperature $\Delta T$	$\leq 4$ seconds*
8. Overpower $\Delta T$	$\leq 4$ seconds
9. Pressurizer Pressure-Low	$\leq 2$ seconds
10. Pressurizer Pressure-High	$\leq 2$ seconds
11. Pressurizer Water Level-High	N.A.

\*Neutron detectors are exempt from response time testing. Response time of the neutron flux signal portion of the channel shall be measured from detector output or input of first electronic component in channel.

TABLE 3.3-2 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION RESPONSE TIMES

<u>FUNCTIONAL UNIT</u>	<u>RESPONSE TIME</u>
12. Low Reactor Coolant Flow	
a. Single Loop (Above P-8)	< 1 second
b. Two Loops (Above P-7 and below P-8)	≤ 1 second
13. Steam Generator Water Level-Low-Low	
a. Unit 1	< 3.5 seconds
b. Unit 2	≤ 2.0 seconds
14. Undervoltage-Reactor Coolant Pumps	≤ 1.5 seconds
15. Underfrequency-Reactor Coolant Pumps	≤ 0.6 second
16. Turbine Trip	
a.1 Control Valve EH Pressure-Low (Unit 1)	N.A.
a.2 Stop Valve EH Pressure-Low (Unit 2)	N.A.
b. Turbine Stop Valve Closure	N.A.
17. Safety Injection Input from ESF	N.A.
18. Reactor Trip System Interlocks	N.A.
19. Reactor Trip Breakers	N.A.
20. Automatic Trip and Interlock Logic	N.A.

CATAMBA - UNITS 1 &amp; 2

3/4 3-8

Amendment No.13(Unit 1)  
Amendment No.5 (Unit 2)

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(12)	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

TABLE 4.3-1 (Continued)

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>
CATAMBA - UNITS 1 & 2	13. Steam Generator Water Level-Low-Low	S	R(13)	M	N.A.	N.A.	1, 2
	14. Undervoltage - Reactor Coolant Pumps	N.A.	R	N.A.	M	N.A.	1
	15. Underfrequency - Reactor Coolant Pumps	N.A.	R	N.A.	M	N.A.	1
3/4 3-10	16. Turbine Trip						
	a.1 Control Valve EH Pressure - Low (Unit 1)	N.A.	R	N.A.	S/U(1, 10)	N.A.	1#
	a.2 Stop Valve EH Pressure - Low (Unit 2)	N.A.	R	N.A.	S/U(1, 10)	N.A.	1#
	b. Turbine Stop Valve Closure	N.A.	R	N.A.	S/U(1, 10)	N.A.	1#
	17. Safety Injection Input from ESF	N.A.	N.A.	N.A.	R**	N.A.	1, 2
Amendment No. 13 (Unit 1) Amendment No. 5 (Unit 2)	18. Reactor Trip System Interlocks						
	a. Intermediate Range Neutron Flux, P-6	N.A.	R(4)	M	N.A.	N.A.	2##
	b. Low Power Reactor Trips Block, P-7	N.A.	R(4)	M(8)	N.A.	N.A.	1
	c. Power Range Neutron Flux, P-8	N.A.	R(4)	M(8)	N.A.	N.A.	1
	d. Low Power Range Neutron Flux, P-9	N.A.	R(4)	M(8)	N.A.	N.A.	1

\*\* This surveillance need not be performed until prior to entering STARTUP following the Unit 1 first refueling.

TABLE 4.3-1 (Continued)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>
18. Reactor Trip System Interlocks (Continued)						
e. Power Range Neutron Flux, P-10	N.A.	R(4)	M(8)	N.A.	N.A.	1
f. Power Range Neutron Flux, Not P-10	N.A.	R(4)	M(8)	N.A.	N.A.	1, 2
g. Turbine Impulse Chamber Pressure, P-13	N.A.	R	M(8)	N.A.	N.A.	1
19. Reactor Trip Breaker	N.A.	N.A.	N.A.	M(7, 11)	N.A.	1, 2, 3*, 4*, 5*
20. Automatic Trip and Interlock Logic	N.A.	N.A.	N.A.	N.A.	M(7)	1, 2, 3*, 4*, 5*

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. Monthly surveillance shall include verification of the Boron Dilution Alarm Setpoint of less than or equal to one-half decade (square root of 10) above background.
- (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) CHANNEL CALIBRATION shall include the RTD bypass loops flow rate.
- (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.

TABLE 3.3-4 (Continued)

## ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

CATAMBA FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
UNITS 1 & 2					
8. Auxiliary Feedwater (Continued)					
c. Steam Generator Water Level - Low-Low					
1) Unit 1	17	14.2	1.5	> 17% of span from 0% to 30% RTP increasing linearly to > 40.0% of span from 30% to 100% RTP	> 15.3% of span from 0% to 30% RTP increasing linearly to > 38.3% of span from 30% to 100% RTP
2) Unit 2	17	14.2	1.5	> 17% of narrow range span	> 15.3% of narrow range instrument span
d. Safety Injection	See Item 1. above for all Safety Injection Setpoints and Allowable Values.				
e. Loss-of-Offsite Power	N.A.	N.A.	N.A.	> 3500 V	> 3200 V
f. Trip of All Main Feedwater Pumps	N.A.	N.A.	N.A.	N.A.	N.A.
g. Auxiliary Feedwater Suction Pressure-Low					
1) CAPS 5220, 5221, 5222	N.A.	N.A.	N.A.	> 10.5 psig	> 9.5 psig
2) CAPS 5230, 5231, 5232	N.A.	N.A.	N.A.	> 6.2 psig	> 5.2 psig
a. Unit 1	N.A.	N.A.	N.A.	> 6.2 psig	> 5.2 psig
b. Unit 2	N.A.	N.A.	N.A.	> 6.0 psig	> 5.0 psig
9. Containment Sump Recirculation					
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
b. Refueling Water Storage Tank Level-Low Coincident With Safety Injection	N.A.	N.A.	N.A.	> 177.15 inches	> 162.4 inches
	See Item 1. above for all Safety Injection Setpoints and Allowable Values.				

Amendment No. 13 (Unit 1)  
Amendment No. 5 (Unit 2)



TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>		<u>TOTAL ALLOWANCE (TA)</u>	<u>Z</u>	<u>SENSOR ERROR (S)</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
10.	Loss of Power					
a.	4 kV Bus Undervoltage-Loss of Voltage	N.A.	N.A.	N.A.	$\geq 3500 \text{ V}$	$\geq 3200 \text{ V}$
b.	4 kV Bus Undervoltage-Grid Degraded Voltage	N.A.	N.A.	N.A.	$\geq 3685 \text{ V}$	$\geq 3611 \text{ V}$
11.	Control Room Area Ventilation Operation					
a.	Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
b.	Loss-of-Offsite Power	N.A.	N.A.	N.A.	$\geq 3500 \text{ V}$	$\geq 3200 \text{ V}$
c.	Safety Injection	See Item 1. above for all Safety Injection Setpoints and Allowable Values.				
12.	Containment Air Return and Hydrogen Skimmer Operation					
a.	Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
b.	Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
c.	Containment Pressure-High-High	12.7	0.71	1.5	$\leq 3 \text{ psig}$	$\leq 3.2 \text{ psig}$



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 13 TO FACILITY OPERATING LICENSE NPF-35  
AND AMENDMENT NO. 5 TO FACILITY OPERATING LICENSE NPF-52  
CATAWBA NUCLEAR STATION, UNITS 1 AND 2  
DUKE POWER COMPANY, ET AL.

INTRODUCTION

By letter dated September 10, 1985, Duke Power Company, et al., (the licensee) proposed changes to the Technical Specifications (TS) for Catawba Unit 1 to lower the Low-Low Reactor Trip Signal for the Steam Generator Level when the reactor is operating above 30% power level. These changes pertain to Unit 1 only. However, because Units 1 and 2 TS are combined in one document, certain non-substantive changes in format with respect to Unit 2 are required. Supplemental letters dated November 27, 1985, January 7, 1986, and July 31, 1986, provided revision and clarification to the proposed changes requested in the September 13, 1985, letter.

EVALUATION

The proposed changes to Tables 2.2-1, 3.3-2, 3.3-4 and 4.3-1 would (1) lower the trip setpoint so that instead of increasing linearly from 17 to 54.9% of span, while the reactor is taken from 30 to 100% of rated thermal power, it would increase linearly from 17 to 40%; (2) decrease the minimum permitted trip value (including the setpoint tolerance) at 100% power from 53.2 to 38.3%; and (3) increase the allowable response time for the low-low steam generator reactor trip from 2.0 to 3.5 seconds. The above changes are being proposed to prevent unnecessary reactor trips and auxiliary feedwater initiations due to spurious steam generator low-low level signal fluctuations near the current programmed setpoint.

To support the above changes, the licensee requested that Westinghouse analyze the effect of reduced steam generator inventory on a Feedwater System Pipe Break both with and without offsite power available and on a loss of Non-Emergency AC Power. The Final Safety Analysis Report (FSAR) will be revised to specify a worst case single failure in the auxiliary feedwater system resulting in 491 gpm of auxiliary feedwater delivered to two steam generators. Core residual heat generation was based on ANSI/ANS 5.1-1979, "American National Standard for Decay Heat Power in Light Water Reactors," August 1979. The assumptions of decay heat postulated by the model proposed by the licensee (ANS 5.1-1979) are acceptable. Using these revised assumptions for residual heat in a reanalysis of affected accidents in Chapter 15 of the FSAR indicates that all applicable safety criteria were met at the revised low-low level setpoint. Thus, the staff finds that the proposed revisions to the Catawba Unit 1 TS are acceptable. Furthermore, the proposed revision to the Catawba 1 FSAR is acceptable when 492 gpm on page 15.2-19a is changed to 491 gpm.

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In addition to the setpoint changes, the licensee has added a new filter to the steam generator low-low level channel circuitry to further reduce spurious reactor trips and auxiliary feedwater initiations. The time constant for this filter is adjusted to a value less than or equal to 1.5 seconds. The staff has reviewed the adjustment and finds it acceptable.

#### ENVIRONMENTAL CONSIDERATION

The amendments involve a change in 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 exposures. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there have been no public comments on such finding. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR Section 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.

#### CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (51 FR 30564) on August 27, 1986, and 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 the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: Kahtan Jabbour, PWR#4/DPWR-A  
Rudy Karsch, RSB/DPWR-A

Dated: September 30, 1986

September 30, 1986

AMENDMENT NO. 13 TO FACILITY OPERATING LICENSE NPF-35 -  
CATAWBA NUCLEAR POWER STATION, UNIT 1  
AMENDMENT NO. 5 TO FACILITY OPERATING LICENSE NPF-52 -  
CATAWBA NUCLEAR POWER STATION, UNIT 2

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