

July 18, 1989

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. 66 TO FACILITY OPERATING LICENSE NPF-35  
AND AMENDMENT NO. 60 TO FACILITY OPERATING LICENSE NPF-52 - CATAWBA  
NUCLEAR STATION, UNITS 1 AND 2 (TACS 65591/65592)

The Nuclear Regulatory Commission has issued the enclosed Amendment No.66 to Facility Operating License NPF-35 and Amendment No. 60 to Facility Operating License NPF-52 for the Catawba Nuclear Station, Units 1 and 2. These amendments consist of changes to the Technical Specifications (TS) in response to your application dated June 12, 1987, as supplemented July 9, 1987, January 8, 1988, and May 3, 1989.

The amendments modify the TS by adding operability and surveillance requirements for radioactive liquid effluent monitoring instrumentation for water from the turbine building sump after treatment by an alternate demineralizer system.

A copy of the related safety evaluation supporting Amendment No. 66 to Facility Operating License NPF-35 and Amendment No. 60 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,

*ISI*

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

Enclosures:

- 1. Amendment No. 66 to NPF-35
- 2. Amendment No. 60 to NPF-52
- 3. Safety Evaluation

cc w/enclosures:  
See next page

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DATED: July 18, 1989

AMENDMENT NO. 66 TO FACILITY OPERATING LICENSE NPF-35 - Catawba Nuclear Station, Unit 1  
AMENDMENT NO. 60 TO FACILITY OPERATING LICENSE NPF-52 - Catawba Nuclear Station, Unit 2

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J. Calvo	11-F-23
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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. 66  
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 12, 1987, as supplemented July 9, 1987, January 8, 1988, and May 3, 1989, 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-35 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 66, 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



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: July 18, 1989

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. 66, 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

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: July 18, 1989

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06/12/89

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LCunningham  
06/10/89

OGC  
BmBorden  
06/28/89

*[Handwritten Signature]*  
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Concurrent  
Subject To  
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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. 60  
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 12, 1987, as supplemented July 9, 1987, January 8, 1988, and May 3, 1989, 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. 60, 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



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: July 18, 1989



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. 60, 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

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: July 18, 1989

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LCunningham  
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OGC  
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DMatthews  
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(See New  
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AS TO  
EA FUNDING  
ISSUANCE)

ATTACHMENT TO LICENSE AMENDMENT NO. 66

FACILITY OPERATING LICENSE NO. NPF-35

DOCKET NO. 50-413

AND

TO LICENSE AMENDMENT NO. 60

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	3-81
3/4	3-82
3/4	3-83
3/4	11-2

TABLE 3.3-12

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>ACTION</u>
1. Radioactivity Monitors Providing Alarm and Automatic Termination of Release		
a. Waste Liquid Discharge Monitor (Low Range - EMF-49)	1 per station	40
b. Turbine Building Sump Monitor (Low Range - EMF-31)	1	42
c. Steam Generator Water Sample Monitor (Low Range - EMF-34)	1	43
d. Monitor Tank Building Liquid Discharge Monitor (EMF-57)	1 per station	40
2. Continuous Composite Samplers and Sampler Flow Monitor.		
a. Conventional Waste Water Treatment Line	1 per station	42
b. Turbine Building Sump	1 per station	42*
3. Flow Rate Measurement Devices		
a. Waste Liquid Effluent Line	1 per station	41
b. Conventional Waste Water Treatment Line	1 per station	41
c. Low Pressure Service Water Minimum Flow Interlock	1 per station	41
d. Monitor Tank Building Waste Liquid Effluent Line	1 per station	41
e. Turbine Building Sump Demineralizer Skid Totalizer	1 per station	41*

CATAMBA - UNITS 1 &amp; 2

3/4 3-81

Amendment No. 66 (Unit 1)  
Amendment No. 60 (Unit 2)

TABLE 3.3-12 (Continued)

TABLE NOTATIONS

\*During use of demineralizer (EMF-31 in off-normal mode)

ACTION STATEMENTS

- ACTION 40 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 14 days provided that prior to initiating a release:
- a. At least two independent samples are analyzed in accordance with Specification 4.11.1.1.1, and
  - b. At least two technically qualified members of the facility staff independently verify:
    1. The discharge line valving, and
    2. The manual portion of the computer input for the release rate calculations performed on the computer, or the entire release rate calculations if such calculations are performed manually.Otherwise, suspend release of radioactive effluents via this pathway.
- ACTION 41 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once per 4 hours during actual releases. Pump performance curves generated in place may be used to estimate flow.
- ACTION 42 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided grab samples are analyzed for radioactivity at a lower limit of detection of no more than  $10^{-7}$  microCurie/ml:
- a. At least once per 12 hours when the specific activity of the secondary coolant is greater than 0.01 microCurie/gram DOSE EQUIVALENT I-131, or
  - b. At least once per 24 hours when the specific activity of the secondary coolant is less than or equal to 0.01 microCurie/gram DOSE EQUIVALENT I-131.
- ACTION 43 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, gaseous effluent releases via the atmospheric vent valves (off-normal mode) may continue provided grab samples of steam generator water are analyzed for radioactivity for up to 30 days at a lower limit of detection of no more than  $10^{-7}$  microCurie/ml:
- a. At least once per 12 hours when the specific activity of the secondary coolant is greater than 0.01 microCurie/gram DOSE EQUIVALENT I-131, or
  - b. At least once per 24 hours when the specific activity of the secondary coolant is less than or equal to 0.01 microCurie/gram DOSE EQUIVALENT I-131.

TABLE 4.3-8

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>SOURCE CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>
1. Radioactivity Monitors Providing Alarm and Automatic Termination of Release				
a. Waste Liquid Discharge Monitor (Low Range - EMF-49)	D	P	R(2)	Q(1)
b. Turbine Building Sump Monitor (Low Range - EMF-31)	D	M	R(2)	Q(1)
c. Steam Generator Water Sample Monitor (Low Range - EMF-34)	D	M	R(2)	Q(1)
d. Monitor Tank Building Liquid Discharge Monitor (EMF-57)	D	P	R(2)	Q(1)
2. Continuous Composite Samplers and Sampler Flow Monitor				
a. Conventional Waste Water Treatment Line	D(3)	N.A.	R	N.A.
b. Turbine Building Sump	D(3)	N.A.	R	N.A.
3. Flow Rate Measurement Devices				
a. Waste Liquid Effluent Line	D(3)	N.A.	R	N.A.
b. Conventional Waste Water Treatment Line	D(3)	N.A.	R	N.A.
c. Low Pressure Service Water Minimum Flow Interlock	D(3)	N.A.	R	Q
d. Monitor Tank Building Waste Liquid Effluent Line	D(3)	N.A.	R	Q
e. Turbine Building Sump Demineralizer Skid Totalizer	D(3)	N.A.	R	N.A.

CATAMBA - UNITS 1 &amp; 2

3/4 3-83

Amendment No. 66 (Unit 1)  
Amendment No. 60 (Unit 2)

TABLE 4.11-1

RADIOACTIVE LIQUID WASTE SAMPLING AND ANALYSIS PROGRAM

LIQUID RELEASE TYPE	SAMPLING FREQUENCY	MINIMUM ANALYSIS FREQUENCY	TYPE OF ACTIVITY ANALYSIS	LOWER LIMIT OF DETECTION (LLD) <sup>(1)</sup> (μCi/ml)	
1. Batch Waste Release Tanks <sup>(2)</sup>  Any tank which discharges liquid wastes by either liquid effluent monitor, EMF-49 or EMF-57	P Each Batch	P Each Batch	Principal Gamma Emitters <sup>(3)</sup>	5x10 <sup>-7</sup>	
			I-131	1x10 <sup>-6</sup>	
	P One Batch/M	M	Dissolved and Entrained Gases (Gamma Emitters)		1x10 <sup>-5</sup>
			P Each Batch	M Composite <sup>(4)</sup>	H-3
	Gross Alpha	1x10 <sup>-7</sup>			
	P Each Batch	Q Composite <sup>(4)</sup>	Sr-89, Sr-90	5x10 <sup>-8</sup>	
			Fe-55	1x10 <sup>-6</sup>	
2. Continuous Releases <sup>(5)</sup>  a. Conventional Waste Water Treatment Line  b. Turbine Building Sump Demineralizer Skid, EMP-31*	Continuous <sup>(6)</sup>	W Composite <sup>(6)</sup>	Principal Gamma Emitters <sup>(3)</sup>	5x10 <sup>-7</sup>	
			I-131	1x10 <sup>-6</sup>	
	M Grab Sample	M	Dissolved and Entrained Gases (Gamma Emitters)		1x10 <sup>-5</sup>
			Continuous <sup>(6)</sup>	M Composite <sup>(6)</sup>	H-3
	Gross Alpha	1x10 <sup>-7</sup>			
	Continuous <sup>(6)</sup>	Q Composite <sup>(6)</sup>	Sr-89, Sr-90	5x10 <sup>-8</sup>	
			Fe-55	1x10 <sup>-6</sup>	

\*During use of demineralizer (use of EMF-31 in off-normal mode).



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 66 TO FACILITY OPERATING LICENSE NPF-35  
AND AMENDMENT NO. 60 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 June 12, 1987, and supplemented July 9, 1987, Duke Power Company, et al., (the licensee) proposed changes to Catawba Units 1 and 2 Technical Specification (TS) Table 3.3-12 "Radioactive Liquid Effluent Monitoring Instrumentation," Table 4.3-8 "Radioactive Liquid Effluent Monitoring Instrumentation Surveillance Requirements," and Table 4.11-1 "Radioactive Liquid Waste Sampling and Analysis Program" to add operability and surveillance requirements for radioactive liquid effluent monitoring instrumentation for water from the turbine building sump after treatment by an alternate demineralizer system. The proposed amendments would provide program requirements for the sampling and analysis of the demineralized sump water and its surveillance by radiation monitor EMF-31 before discharge into the Low Pressure Service Water System.

By letter dated November 17, 1987, the NRC staff requested additional information regarding the proposed changes. By letter dated January 8, 1988, the licensee responded to NRC concerns. Furthermore, by letter dated November 16, 1988, the NRC staff transmitted a Technical Evaluation Report (TER) and requested that all the items in the TER related to the proposed amendments to the TSS be incorporated within six months in the next revision to the Offsite Dose Calculation Monitor (ODCM). By letter dated May 3, 1989, the licensee provided responses to the discrepancies documented in the November 16, 1988 letter. However, the licensee stated in the letter dated May 3, 1989, that the concerns noted in the TER will be addressed in the upcoming revision to the ODCM to be issued by September 1989.

Because the January 8, 1988, and May 3, 1989, submittals clarified certain aspects of the request, the substance of the changes noticed in the Federal Register and the proposed no significant hazards consideration were not affected.

2.0 EVALUATION

The Radwaste Treatment System (capacity 16,000 to 18,000 gallons per day) will remain the primary treatment system for processing highly contaminated wastes. The licensee proposes to install portable equipment to demineralize the larger volumes of slightly radioactive wastewater, 72,000 gallons per day or more, which can result from primary-to-secondary leaks in the steam

generators. The Turbine Building sump also receives waste water with very low levels of radioactivity from other sources such as floor drains and the Auxiliary Building drain sump. The treated waste water would be discharged through radiation monitor EMF-31 into the effluent from the Low Pressure Service Water System.

The radioactive release rates would meet 10 CFR Part 20 Appendix B limits. The NRC dose limit imposed by the TS and 10 CFR Part 50 would also be met. The discharges would also be sampled and monitored in compliance with the NPDES permit. Turbine sump water meeting these requirements without treatment could be discharged directly through radiation monitor EMF-31 to the Conventional Wastewater Treatment System.

Table 4.11-1 specifies the supplemental wastewater sampling and analysis requirements when the EMF-31 monitoring channel is operable. In the event that the EMF-31 monitor is not operable, the more frequent sampling and analysis schedule is specified in Table 3.3-12, Action 42.

Based on the its review of the licensee's submittals, the staff concludes that the changes have no adverse impact on safety and would not pose an undue risk to public health and safety. Therefore, they are acceptable.

### 3.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.32 the Commission has determined that the issuance of these amendments will have no significant impact on the environment (54FR29623).

### 4.0 CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (52 FR35791) on September 23, 1987. 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 Contributor: K. Jabbour, PDII-3/DRP-I/II

Dated: July 18, 1989