Docket Nos.: 50-413
and 50-414

December 11, 1987

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. 36 to Facility Operating License NPF-35 and Amendment No. 28 to Facility Operating License NPF-52 - Catawba Nuclear Station, Units 1 and 2 (TACS 66462/66463)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 36 to Facility Operating License NPF-35 and Amendment No.28 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 letter dated October 14, 1987, and supplemented November 18, 1987.

The amendments modify Technical Specification 3.6.1.9 and its associated Bases to increase the limit placed on the amount of time the 4-inch Containment Air Release and Addition system valves may be open from 2000 hours per calendar year to 3000 hours. The amendments are effective as of the date of issuance.

A copy of the related safety evaluation supporting Amendment No.36 to Facility Operating License NPF-35 and Amendment No. 28 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,

(S)

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

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Enclosures:
1. Amendment No. 36 to NPF-35
2. Amendment No. 28 to NPF-52
3. Safety Evaluation

cc w/encl:
See next page

DISTRIBUTION:
See attached page

* SEE PREVIOUS CONCURRENCE

KNJ 12/10/87		KNJ 12/10/87
PDII-3/DRPI/II	PDII-3/DRPI/II	PDII-3/DRPI/II
*KJabbour/mac	*MDuncan	*Acting PD
11/12/87	11/12/87	11/12/87

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

L.L. Williams
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

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

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

DATED December 11, 1987

AMENDMENT NO. 36 TO FACILITY OPERATING LICENSE NPF-35 -
CATAWBA NUCLEAR POWER STATION, UNIT 1
AMENDMENT NO. 28 TO FACILITY OPERATING LICENSE NPF-52 -
CATAWBA NUCLEAR POWER STATION, UNIT 2

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E. Butcher
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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. 36
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 October 14, 1987, and supplemented November 18, 1987, 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, as amended, 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 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-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. 36, and the Environmental Protection Plan

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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

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

Attachment:
Technical Specification Changes

Date of Issuance: December 11, 1987

PDII-3/DRPI/II	PDII-3/DRPI/II	DEST/PSB	OGC-Bethesda	PDII-3/DRPI/II
MDuncan/mac	KJabbour	JCraig		Acting PD
11/12/87	11/12/87	11/12/87	11/ /87	11/ /2/87
	KNJ		12/10/87	KNJ 12/10/87

AD/DRPII
GLainas
11/12/87
Correction 12/10/89 by KNJ

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. 28
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 October 14, 1987, and supplemented November 18, 1987, 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, as amended, 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 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. 28, 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

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

Attachment:
Technical Specification Changes

Date of Issuance: December 11, 1987

PDII-3/DRPI/II	PDII-3/DRPI/II	DEST/PSB	OGC-Bethesda	PDII-3/DRPI/II
MDuncan/mac	KJabbour	JCraig		Acting PD
11/12/87	11/12/87	11/14/87	11/ /87	11/12 /87

AD/DRPII
GLainas
11/12/87

12/10/87

KWJ 12/10/87

correction 12/10/87 by KWJ

ATTACHMENT TO LICENSE AMENDMENT NO. 36

FACILITY OPERATING LICENSE NO. NPF-35

DOCKET NO. 50-413

AND

TO LICENSE AMENDMENT NO. 28

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 page is identified by Amendment number and contains vertical lines indicating the areas of change. The corresponding overleaf page is also provided to maintain document completeness.

Amended Page	Overleaf Page
3/4 6-16	3/4 6-15
B3/4 6-3	B3/4 6-4

SURVEILLANCE REQUIREMENTS (Continued)

c. After every 720 hours of carbon adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1%;

d. At least once per 18 months by:

1) Verifying that the pressure drop across the combined HEPA filters, carbon adsorber banks, and moisture separators is less than 8 inches Water Gauge while operating the system at a flow rate of 9000 cfm ± 10%;

2) Verifying that the system starts automatically on any Phase "A" Isolation test signal,**

3) Verifying that the filter cooling electric motor-operated bypass valves can be manually opened,

4) Verifying that each system produces a negative pressure of greater than or equal to 0.5 inch Water Gauge in the annulus within 1 minute after a start signal, and

5) Verifying that the pre-heaters dissipate 45 ± 6.7 kW.

e. After each complete or partial replacement of a HEPA filter bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% (Unit 1), 0.05% (Unit 2) in accordance with ANSI N510-1980 for a DOP test aerosol while operating the system at a flow rate of 9000 cfm ± 10%; and

f. After each complete or partial replacement of a carbon adsorber bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% (Unit 1), 0.05% (Unit 2) in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 9000 cfm ± 10%.

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

CONTAINMENT PURGE SYSTEMS

LIMITING CONDITION FOR OPERATION

3.6.1.9 Each containment purge supply and exhaust isolation valve shall be OPERABLE and:

a. Each containment purge supply and/or exhaust isolation valve for the lower compartment and the upper compartment (24-inch), instrument room (12-inch), and the Hydrogen Purge System (4-inch) shall be sealed closed, and

b. The Containment Air Release and Addition System (4-inch) isolation valve(s) may be open for up to 3000 hours during a calendar year for pressure control, for ALARA and respirable air quality considerations for personnel entry and for surveillance tests that require the valve(s) to be open.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With any containment purge supply and/or exhaust isolation valve for the lower compartment and the upper compartment, or instrument room, or Hydrogen Purge System open or not sealed closed, close and/or seal closed that valve or isolate the penetrations(s) within 4 hours, otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With the Containment Air Release and Addition System isolation valve(s) open for more than 3000 hours during a calendar year or for reasons other than given in 3.6.1.9b. above, close the open valve(s) or isolate the penetration(s) within 4 hours, otherwise be in at least HOT STANDBY within the next 6 hours, and in COLD SHUTDOWN within the following 30 hours.

c. With a containment purge supply and/or exhaust isolation valve(s) having a measured leakage rate in excess of the limits of Specifications 4.6.1.9.3 and/or 4.6.1.9.4, restore the inoperable valve(s) to OPERABLE status within 24 hours, otherwise be in at least HOT STANDBY within the next 6 hours, and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.9.1 Each containment purge supply and/or exhaust isolation valves for the lower compartment and the upper containment, or instrument room, or Hydrogen Purge System shall be verified to be sealed closed at least once per 31 days.

4.6.1.9.2 The cumulative time that the Containment Air Release and Addition System has been open during a calendar year shall be determined at least once per 7 days.

3/4.6.1.8 ANNULUS VENTILATION SYSTEM

The OPERABILITY of the Annulus Ventilation System ensures that during LOCA conditions, containment vessel leakage into the annulus will be filtered through the HEPA filters and carbon adsorber trains prior to discharge to the atmosphere. Operation of the system with the heaters operating to maintain low humidity using automatic control for at least 10 continuous hours in a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. This requirement is necessary to meet the assumptions used in the safety analyses and limit the SITE BOUNDARY radiation doses to within the dose guideline values of 10 CFR Part 100 during LOCA conditions. ANSI N510-1980 will be used as a procedural guide for surveillance testing.

3/4.6.1.9 CONTAINMENT PURGE SYSTEMS

The containment purge supply and exhaust isolation valves for the lower compartment and the upper compartment (24-inch), and instrument room (12-inch), and the Hydrogen Purge System (4-inch) are required to be sealed closed during plant operation since these valves have not been demonstrated capable of closing during a LOCA. Maintaining these valves sealed closed during plant operations ensures that excessive quantities of radioactive materials will not be released via the Containment Purge System. To provide assurance that these containment valves cannot be inadvertently opened, the valves are sealed closed in accordance with Standard Review Plan 6.2.4 which includes mechanical devices to seal or lock the valve closed, or prevents power from being supplied to the valve operator.

The use of the containment purge lines is restricted to the 4-inch Containment Air Release and Addition System valves since, unlike the lower compartment and the upper compartment, instrument room, and the Hydrogen Purge System valves, these 4-inch valves are capable of closing during a LOCA. Therefore, the SITE BOUNDARY dose guideline values of 10 CFR Part 100 would not be exceeded in the event of an accident during containment purging operation. Operation with the line open will be limited to 3000 hours during a calendar year for the 4-inch valves. The total time the containment purge (vent) system isolation valves may be open during MODES 1, 2, 3, and 4 in a calendar year is a function of anticipated need and operating experience. Only safety-related reasons; e.g., containment pressure control or the reduction of airborne radioactivity to facilitate personnel access for surveillance and maintenance activities, may be used to justify the opening of these isolation valves.

Leakage integrity tests with a maximum allowable leakage rate for containment purge supply and exhaust valves will provide early indication of resilient material seal degradation and will allow opportunity for repair before gross leakage failures could develop. The 0.60 L_a leakage limit of Specification 3.6.1.2b. shall not be exceeded when the leakage rates determined by the leakage integrity tests of these valves are added to the previously determined total for all valves and penetrations subject to Type B and C tests.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

The OPERABILITY of the Containment Spray System ensures that containment depressurization and cooling capability will be available in the event of a LOCA. The pressure reduction and resultant lower containment leakage rate are consistent with the assumptions used in the safety analyses. However, the Containment Spray System also provides a mechanism for removing iodine from the containment atmosphere, and therefore the time requirements for restoring an inoperable Spray System to OPERABLE status have been maintained consistent with those assigned other inoperable ESF equipment.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment and is consistent with the requirements of GDC 54 through 57 of Appendix A to 10 CFR Part 50. Containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit is capable of controlling the expected hydrogen generation associated with: (1) zirconium-water reactions, (2) radiolytic decomposition of water, and (3) corrosion of metals within containment. These Hydrogen Control Systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations Following a LOCA," March 1971.

The OPERABILITY of at least 35 to 36 igniters per train (70 of 72 for both trains) ensures that the Distributed Ignition System will maintain an effective coverage throughout the containment provided the two inoperable ignitors are not on corresponding redundant circuits which provide coverage for the same region. This system of igniters will initiate combustion of any significant amount of hydrogen released after a degraded core accident. This system is to ensure burning in a controlled manner as the hydrogen is released instead of allowing it to be ignited at high concentrations by a random ignition source.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 36 TO FACILITY OPERATING LICENSE NPF-35

AND AMENDMENT NO. 28 TO FACILITY OPERATING LICENSE NPF-52

DUKE POWER COMPANY, ET AL.

DOCKET NOS. 50-413 AND 50-414

CATAWBA NUCLEAR STATION, UNITS 1 AND 2

INTRODUCTION

By letter dated October 14, 1987, Duke Power Company, et al., (the licensee) proposed amendments to revise Technical Specification (TS) 3.6.1.9 "Containment Purge Systems" to increase the limit placed on the amount of time the 4-inch Containment Air Release and Addition (VQ) System valves may be open from 2000 hours per calendar year to 3000 hours.

By letter dated November 18, 1987, the licensee clarified certain aspects of the request by stating in TS 3.6.1.9b. the safety-related reasons that would justify this request. Also, BASES 3/4.6.1.9 "Containment Purge System" associated with this TS were revised.

Because the November 18, 1987, submittal clarified certain aspects of the request, the substance of the changes noticed in the Federal Register and the proposed no significant hazards determination were not affected.

EVALUATION

TS Bases 3/4.6.1.9 state that the total time this system may be open is a function of "...anticipated need and operating experience. Only safety-related reasons; e.g., containment pressure control or the reduction of airborne radioactivity to facilitate access for surveillance and maintenance activities may be used to support the additional time requests." There was no rigorous basis for establishing 2000 hours as the time limit for purging and venting the containment - only to limit the time for its use. The increase to 3000 hours is not significant from a safety standpoint.

The licensee stated that the experience at Catawba Unit 1 indicates the need to open these valves for a period greater than 2000 hours, and that this system is used to maintain containment pressure within the limits of TS 3/4.6.1.4 during normal plant operation. Containment pressure fluctuations due to postulated accidents are mitigated by safety-related systems other than the VQ system. Because these valves are assumed to be open at the onset of an accident (but would close upon receipt of an Engineered Safety Feature (ESF) signal), relaxing the restriction on the amount of time they may be open will have no effect on the accident analyses. Also, the VQ System valves are containment isolation valves and as such their closure, in response to an ESF signal, will limit the amount of containment air escaping to the atmosphere if there is concurrent loss-of-coolant accident and air release so that the release is within the

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limits of 10 CFR 100. Filters are provided on this system to remove iodine and other radioactive particulates prior to discharge to the atmosphere. Leak rate tests at Catawba have shown that these valves are highly reliable and leak tight.

Based on the above evaluation, the staff concludes that increasing the limit placed on the amount of time the VQ system valves may be open for the safety-related reasons stated in TS 3.6.1.9b., from 2000 hours per calendar year to 3000 hours, is acceptable.

ENVIRONMENTAL CONSIDERATION

The amendments involve a change in use of facility compontents located within the restricted area as defined in 10 CFR Part 20 and changes in 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 these 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 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 these amendments.

CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (52 FR 42360) on November 4, 1987, 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 Contributor: Kahtan N. Jabbour, PDII-3/DRPI/II

Dated: December 11, 1987