



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

April 21, 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.62 TO FACILITY OPERATING LICENSE NPF-35
AND AMENDMENT NO. 56 TO FACILITY OPERATING LICENSE NPF-52 - CATAWBA
NUCLEAR STATION, UNITS 1 AND 2 (TACS 71031/71032)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 62 to Facility Operating License NPF-35 and Amendment No. 56 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 October 5, 1988, as supplemented December 30, 1988, and January 27, 1989.

The amendments modify the TS to: (1) allow a one-time waiver to the requirements for a complete diesel generator (DG) overhaul and for the testing as stated in the first footnote to Table 4.8-1, (2) change the counting of failures on DGs from a "per nuclear unit basis" to a "per diesel generator basis," and (3) correct the numbers of surveillances referenced in the first footnote to Table 4.8-1.

A copy of the related safety evaluation supporting Amendment No. 62 to Facility Operating License NPF-35 and Amendment No. 56 to Facility Operating License NPF-52 is enclosed.

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Mr. H. B. Tucker

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April 21, 1989

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

Sincerely,

Kahtan N. Jabbour

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

Enclosures:

1. Amendment No. 62 to NPF-35
2. Amendment No. 56 to NPF-52
3. Safety Evaluation

cc w/enclosures:
See next page

Mr. H. B. Tucker

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April 21, 1989

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

Sincerely,

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

Enclosures:

1. Amendment No. 62 to NPF-35
2. Amendment No. 56 to NPF-52
3. Safety Evaluation

cc w/enclosures:
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Mr. H. B. Tucker
Duke Power Company

Catawba Nuclear Station

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DATED: April 21, 1989

AMENDMENT NO. 62 TO FACILITY OPERATING LICENSE NPF-35 - Catawba Nuclear Station, Unit 1
AMENDMENT NO. 56 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. 62
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 5, 1988, as supplemented December 30, 1988, and January 27, 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.

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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. 62, 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

Robert N. Jablon

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

Attachment:
Technical Specification Changes

Date of Issuance: April 21, 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. 62, 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

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

Attachment:
Technical Specification Changes

Date of Issuance: April 21, 1989

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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. 56
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 5, 1988, as supplemented December 30, 1988, and January 27, 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. 56, 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

Keith N. Johnson for

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

Attachment:
Technical Specification Changes

Date of Issuance: April 21, 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. 56, 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

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

Attachment:
Technical Specification Changes

Date of Issuance: April 21, 1989

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ATTACHMENT TO LICENSE AMENDMENT NO. 62

FACILITY OPERATING LICENSE NO. NPF-35

DOCKET NO. 50-413

AND

TO LICENSE AMENDMENT NO. 56

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 8-7

3/4 8-9

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- 11) Verifying that the fuel transfer valve transfers fuel from each fuel storage tank to the day tank of each diesel via the installed cross-connection lines;
 - 12) Verifying that the automatic load sequence timer is OPERABLE with the interval between each load block within the tolerances given in Table 4.8-2;
 - 13) Verifying that the voltage and diesel speed tolerances for the accelerated sequencer permissives are $92.5 \pm 1\%$ and $98 \pm 1\%$, respectively, with a minimum time delay of 2 ± 0.2 s;
 - 14) Verifying that the following diesel generator lockout features prevent diesel generator starting only when required:
 - a) Turning gear engaged, or
 - b) Maintenance mode; and
 - 15) Operating at greater than or equal to 5600 KW but less than or equal to 5750 KW for one hour or until operating temperature has stabilized. Within 5 minutes after completing this test, perform Specification 4.8.1.1.2g.6b).
- h. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting both diesel generators simultaneously, during shutdown, and verifying that both diesel generators accelerate to at least 441 rpm in less than or equal to 11 seconds; and
- i. At least once per 10 years by:
- 1) Draining each fuel oil storage tank, removing the accumulated sediment and cleaning the tank using a sodium hypochlorite solution or its equivalent, and
 - 2) Performing a pressure test of those portions of the diesel fuel oil system designed to Section III, subsection ND of the ASME Code at a test pressure equal to 110% of the system design pressure.
 - 3) Performing tank wall thickness measurements. The resulting data shall be evaluated and any abnormal degradation will be justified or corrected. Any abnormal degradation will be documented in a report to the Commission.

4.8.1.1.3 Reports - All diesel generator failures, valid or non-valid, shall be reported in a Special Report to the Commission pursuant to Specification 6.9.2 within 30 days. Reports of diesel generator failures shall include the information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977. If the number of failures in the last 100 valid tests of any diesel generator is greater than or equal to 7, the report shall be supplemented to include the additional information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977.

TABLE 4.8-1

DIESEL GENERATOR TEST SCHEDULE

<u>NUMBER OF FAILURES IN LAST 20 VALID TESTS*</u>	<u>NUMBER OF FAILURES IN LAST 100 VALID TESTS*</u>	<u>TEST FREQUENCY</u>
<u>≤ 1</u>	<u>≤ 4</u>	At least once per 31 days
<u>> 2**</u>	<u>≥ 5</u>	At least once per 7 days

*Criteria for determining number of failures and number of valid tests shall be in accordance with Regulatory Position C.2.e of Regulatory Guide 1.108, but determined on a per diesel generator basis. For purposes of this schedule, only valid tests conducted after the completion of the preoperational test requirements of Regulatory Guide 1.108, Revision 1, August 1977, shall be included in the computation of the "last 20/100 valid tests."

For the purposes of determining the required test frequency, the previous test failure count may be reduced to zero if a complete diesel overhaul to like-new condition is completed, provided that the overhaul[#], including appropriate post-maintenance operation and testing, is specifically approved by the manufacturer and if acceptable reliability has been demonstrated. The reliability criterion shall be the successful completion of 14 consecutive tests in a single series. Ten of these tests shall be in accordance with the routine Surveillance Requirement 4.8.1.1.2a.4) and 4.8.1.1.2a.5), four tests, in accordance with the 184-day testing requirement of Surveillance Requirements 4.8.1.1.2a.4) and 4.8.1.1.2a.5). If this criterion is not satisfied during the first series of tests, any alternate criterion to be used to transvalue the failure count to zero requires NRC approval.

**The associated test frequency shall be maintained until seven consecutive failure-free demands have been performed and the number of failures in the last 20 valid demands has been reduced to less than or equal to one.

#A one-time waiver to the requirement for performance of a complete diesel generator overhaul to like-new condition has been granted in order to rezero four failures of diesel generator 1A which occurred on April 12, 1988, April 19, 1988, April 25, 1988, and May 5, 1988. These failures resulted from faulty pressure sensors in the diesel generator pneumatic control system.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 62 TO FACILITY OPERATING LICENSE NPF-35
AND AMENDMENT NO. 56 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 October 5, 1988, and supplemented December 30, 1988, and January 27, 1989, Duke Power Company, et al., (the licensee) proposed changes to the Catawba Units 1 and 2 Technical Specifications (TSs) to: (a) allow a one-time waiver to the requirements for a complete diesel generator (DG) overhaul and for the testing as stated in the first footnote to Table 4.8-1, (b) change the counting of failures on DGs from a "per nuclear unit basis" to a "per diesel generator basis" - TS 4.8.1.1.3, and (c) correct the numbers of surveillances referenced in the first footnote to Table 4.8-1.

Each unit at Catawba Nuclear Station has two independent DGs manufactured by IMO Delaval, Incorporated. These DGs are used to provide an emergency standby source of power to the equipment required to safely shutdown the reactor in the event of a loss of offsite power.

2.0 EVALUATION

(a) One-Time Waiver to the Requirements of Table 4.8-1

Each DG is controlled by a separate 60 psi pneumatic control system that will trip the engine when the setpoints of various parameters are reached. This process is achieved by the use of six sensors on the engine and one on the control panel. All of these seven sensors are manufactured by California Controls Company, Inc. (Calcon) and are of one particular model Calcon B4400. The last four valid failures of DG 1A can be attributed to the failure of this Calcon B4400 pressure sensor. These failures took place on April 12, April 19, April 25, and May 5, 1988. More information relating to the specifics of these failures can be found in the licensee's letter dated May 25, 1988

As stated in its 10 CFR 21 notice of April 29, 1988, and supplemented May 12, 1988, Calcon recommended and approved the remanufacturing of the B4400 sensors. The Catawba sensors were actually remanufactured on site by a Calcon representative. All Calcon B4400 sensors were replaced on DGs with the remanufactured Calcon sensors. Based on the discoveries made by Calcon, it is concluded that the 6th, 7th, 8th, and 9th valid failures within the last 100 valid starts on Unit 1A DG are attributed to the same root cause: inadequate

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design and manufacture of the Calcon B4400 pressure sensors. On October 25, 1988, an invalid failure of DG 1B occurred. This was not of the same failure mode as the failures of DG 1A. More information may be found in the licensee's letter dated November 23, 1988.

The new pressure sensors have been tested, their installation was approved by the manufacturer, and acceptable reliability of DG 1A was demonstrated by 47 valid successful starts since May 5, 1988. Forty-five of these tests were conducted in accordance with the routine surveillance requirements of 4.8.1.1.2a.4) and 4.8.1.1.2a.5). The remaining two tests were performed in accordance with the 184-day testing requirement of 4.8.1.1.2a.4) and 4.8.1.1.2a.5). The only difference between these two methods is the prelubing of the turbocharger bearings. This is not a significant difference for these amendments because prelubing is not related to the root cause of the four valid failures discussed above. The root cause was attributed to the inadequate design and manufacture of the Calcon pressure sensors.

It is the licensee's intention to modify the DG trip system. The modifications would delete all pneumatic trip instrumentation from the DGs and replace it with electric trip function. However, these modifications are not connected to the waiver request for rezeroing the four failures on 1A Diesel Generator. The new pneumatic control system pressure sensors were specifically approved by the manufacturer and an acceptable reliability of the system has been demonstrated. In addition, the proposed change would improve the reliability of DG 1A because it would reduce the wear and tear associated with frequent testing.

Based on its review of the licensee's request for a one-time waiver from the requirements of the first footnote to Table 4.8-1, the staff concludes that the request has no adverse impact on safety and would not pose an undue risk to public health and safety. Therefore, it is acceptable.

(b) Change to TS 4.8.1.1.3 Reporting Requirements

The proposed change to TS 4.8.1.1.3 would revise the reporting requirement from a per nuclear unit basis to a per DG basis. Test failures are already determined on a per DG basis as discussed in the footnote to Table 4.8-1.

The reporting requirement is being changed to a per DG basis to be consistent with the testing criteria, and to avoid the need for a dual counting system, one for determining test frequency and one for determining reporting. The testing frequency determination assures that a reliability of 95% is maintained.

Based on its review of the licensee's request for changing the reporting requirement, the staff concludes that the request has no adverse impact on safety and would not pose an undue risk to public health and safety. Therefore, it is acceptable.

(c) Correction of typographical errors in Table 4.8-1

The licensee's proposed changes merely correct the numbers of surveillances referenced in the first footnote to Table 4.8-1. The correct surveillances will be referenced. This change is of an editorial nature, and therefore, it is acceptable.

3.0 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.

4.0 CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (54 FR 7630) on February 22, 1989. 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: April 21, 1989