

March 23, 1993

Docket Nos. 50-413  
and 50-414

Mr. M. S. Tuckman  
Vice President, Catawba Site  
Duke Power Company  
4800 Concord Road  
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Docket File  
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OPA 17f2  
EMerschhoff, R-II

Dear Mr. Tuckman:

SUBJECT: ISSUANCE OF AMENDMENTS - CATAWBA NUCLEAR STATION, UNITS 1 AND 2  
(TAC NOS. M85131 AND M85132)

The Nuclear Regulatory Commission has issued the enclosed Amendment No.106 to Facility Operating License NPF-35 and Amendment No. 100 to Facility Operating License NPF-52 for the Catawba Nuclear Station, Units 1 and 2. The amendments consist of changes to License Conditions 2.C.(12)(a) and 2.C.(8)(a) for Units 1 and 2, respectively, in response to your application dated December 2, 1992.

The amendments revise the Facility Operating Licenses by deleting the license condition pertaining to accumulator discharge instrumentation.

A copy of the related Safety Evaluation, that finds that the initial requirements of the conditions have now been satisfied, is also enclosed. A Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

/s/

Robert E. Martin, Senior Project Manager  
Project Directorate II-3  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 106 to NPF-35
2. Amendment No. 100 to NPF-52
3. Safety Evaluation

cc w/enclosures:  
See next page

OFC	: PDII-3/EA	: PDII-3/PM	: OGC	: PDII-3/D	:
NAME	: LBERRY	: RMARTIN	: RBACHMANN	: DMATTHEWS	:
DATE	: 4/5/93	: 3/8/93	: 3/11/93	: 3/23/93	:

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

March 23, 1993

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*Robert E. Martin*  
Robert E. Martin, Senior Project Manager  
Project Directorate II-3  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

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See next page

Mr. M. S. Tuckman  
Duke Power Company

Catawba Nuclear Station

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

DUKE POWER COMPANY

NORTH CAROLINA ELECTRIC MEMBERSHIP CORPORATION

SALUDA RIVER ELECTRIC COOPERATIVE, INC.

DOCKET NO. 50-413

CATAWBA NUCLEAR STATION, UNIT 1

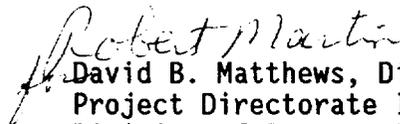
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.106  
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 December 2, 1992, 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 the deletion of the condition in Paragraph 2.C.(12)(a) of Facility Operating License No. NPF-35 as indicated in the attachment.
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:  
Page 7 of license

Date of Issuance: March 23, 1993

- (11) Detailed Control Room Design Review, I.D.1 (Section 18.0, SER, SSER #2)

Duke Power Company shall correct all human engineering deficiencies according to the schedule contained in the letter from Duke Power Company dated February 20, 1984.

- (12) Emergency Response Capabilities (Generic Letter 82-33, Supplement 1 to NUREG-0737).

(a) Deleted

(b) Safety Parameter Display System (SPDS)

Prior to April 1, 1985, Duke Power Company shall have the SPDS operational.

- (13) Anticipatory Reactor Trip, II.K.3.10 (Section 5.2.2, SER)

Prior to exceeding 70% power, Duke Power Company shall complete the described turbine trip tests to verify that PORVs will not be challenged when the anticipatory trip bypass is in effect.

- (14) Hydrogen Control Measures, II.B.7 (Section 6.2.5, Appendix C, SER; Section 6.2.5, SSER #2, SSER #3, SSER #4)

Prior to April 1, 1985, upgraded analyses and tests shall be provided on the following issues and submitted for staff review and approval;

(a) thermal response of the containment atmosphere and essential equipment for a spectrum of accident sequences using revised heat transfer models.



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WASHINGTON, D.C. 20555-0001

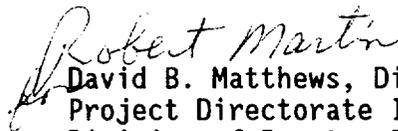
DUKE POWER COMPANY  
NORTH CAROLINA MUNICIPAL POWER AGENCY NO. 1  
PIEDMONT MUNICIPAL POWER AGENCY  
DOCKET NO. 50-414  
CATAWBA NUCLEAR STATION, UNIT 2  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 100  
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 December 2, 1992, 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 the deletion of the condition in Paragraph 2.C.(8)(a) of Facility Operating License No. NPF-52 as indicated in the attachment.
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:  
Page 5 of license

Date of Issuance: March 23, 1993

(8) Emergency Response Capabilities (Generic Letter 82-33, Supplement 1 to NUREG-0737).

(a) Deleted

(b) Safety Parameter Display System (SPDS) (Section 18, SSER #5)

Prior to December 8, 1989, Duke Power Company shall add to the existing SPDS and have operational the following SPDS parameters: (a) residual heat removal flow, (b) containment isolation status, (c) stack radiation measurements, and (d) steam generator or steamline radiation. The actual value of these and all other SPDS variables should be displayed for operator viewing in easily and rapidly accessible display formats.

(9) Anticipatory Reactor Trip, II.K.3.10 (Section 5.2.2, SER)

Prior to exceeding 70% power, Duke Power Company shall complete the described turbine trip tests to verify that PORVs will not be challenged when the anticipatory trip bypass is in effect.

(10) Steam Generator Tube Rupture (Section 15.4.4, SER, SSER #2)

Prior to startup following the first refueling outage of Catawba Unit 2, Duke Power Company shall submit for NRC staff review and approval an analysis which demonstrates that the steam generator single-tube rupture analysis presented in the FSAR is the most severe case with respect to the release of fission products and calculated doses. Consistent with the analytical assumptions, Duke Power Company shall propose any necessary changes to Appendix A to this license.

(11) Transamerica Delaval, Inc. (TDI) Diesel Generators (Section 8.3.1 SSER#5, SSER#6, NUREG-1216)

Duke Power Company shall implement the TDI diesel requirements as specified in Attachment 1 into its maintenance and surveillance program. Attachment 1 is hereby incorporated into this license.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 106 TO FACILITY OPERATING LICENSE NPF-35  
AND AMENDMENT NO. 100 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 December 2, 1992, Duke Power Company, et al. (the licensee or DPC) submitted a request for changes to the Catawba Nuclear Station, Units 1 and 2, Facility Operating Licenses. The requested changes would delete license conditions pertaining to accumulator discharge instrumentation.

The NRC staff addressed this issue in a letter to DPC dated April 8, 1992, for the Catawba Nuclear Station. The NRC staff found that the requirements of License Conditions 2.C.(12)(a) and 2.C.(8)(a) had been met and that the licensee could apply for removal of these conditions. Accordingly, DPC's application of December 2, 1992, requested the deletion of these conditions. The text of the Safety Evaluation which accompanied the NRC staff's letter of April 8, 1992, is presented below.

2.0 BACKGROUND

Section 6.2 of the Generic Letter 82-33 requested licensees to provide a report on their implementation of Regulatory Guide (R.G.) 1.97 (Revision 2), and methods for complying with the Commission's regulations including a supporting technical justification of any proposed alternatives or deviations. A review of the licensees' submittals was performed by the staff and a safety evaluation (SE) was issued for each plant. These SEs concluded that the licensees either conformed to, or adequately justified deviations from, the guidance of the regulatory guide for each post-accident monitoring (PAM) variable except for the variables identified in the SE.

Exceptions were identified for the accumulator level and pressure monitoring. A large number of the exception requests were for relaxing the equipment qualification (EQ) requirement from Category 2 to Category 3 qualification that allows commercial grade instruments to be used in certain applications. However, none of the submittals requesting the exceptions provided sufficient justification for granting the exception. These requests were denied to the licensees and applications whose R.G. 1.97 compliance SEs were issued by the staff before 1987. Since 1987, exceptions for the accumulator instrumentation were considered by the staff as an open item till a generic resolution could

be found. Thirty-two plants requested relaxation of EQ requirements from Category 2 to Category 3 for the accumulator level and pressure instrumentation.

### 3.0 EVALUATION

The Code of Federal Regulations (10 CFR) Section 50.49, requires licensees to establish a program for qualifying certain post-accident monitoring equipment for which specific guidance concerning the types of variables to be monitored is provided in Revision 2 of R.G. 1.97. This guide identifies the accumulator instrumentation as type D variable that provides information to indicate the operation of individual safety systems and other systems important to safety, to help the operator in selecting appropriate mitigating actions. The guide lists Category 2 qualification for this instrumentation. The Category 2 qualification criteria require the instrumentation to be qualified in accordance with R.G. 1.89 and the methodology described in NUREG-0588. Additionally, the instrumentation with Category 2 qualification should be energized from a high-reliability power source, not necessarily standby power.

In contrast to this, the Category 3 qualification criteria require only an off-site power source and the instrumentation to be only of high-quality commercial grade to withstand the specified service environment (mild environment as defined in 10 CFR 50.49, paragraph c).

Qualification criteria for instrumentation are established based on the safety function of the system whose variables are being monitored. The selection criteria for R.G. 1.97 variables qualification category is based upon whether monitoring of system parameters is needed during and following an accident and whether subsequent operator actions in the operating procedures are dependent on the information provided by this instrumentation.

The accumulators are pressure vessels filled with borated water and pressurized with nitrogen gas. Being a passive system, it provides a fast acting, high flow rate, cold leg injection during the injection phase of an ECCS (emergency core cooling system) operation. Both volume and pressure are monitored to assure the accumulator's function in accordance with the Final Safety Analysis Report. During normal operation, the accumulator is isolated from the reactor coolant system (RCS) by two check valves in series. To prevent inadvertent closing, each accumulator's motor operated isolation valve (MOV) is normally open with its power removed, and the status of the MOV is assured by the Technical Specification surveillance requirements. Should the RCS pressure decrease below accumulator pressure (as during a LOCA), the check valves open and the nitrogen gas pressure will force the borated water into the RCS. Thus, a mechanical operation of the swing-check valves is the only action required to open the injection path from the accumulator to the reactor core. No external power source or initiating signal is needed for the operation of the motor operated valve which is used to isolate the accumulator from the RCS. Isolation from the RCS is not a safety function of the accumulator. Additionally, the accumulator is not designed to perform any post-accident safety function.

The above discussion establishes that the accumulator instrumentation does not perform a safety function during, or in, a post-accident environment and operator actions to mitigate the effects of an accident do not depend on the information provided by the accumulator instrumentation. Additionally, successful performance of core cooling systems can be inferred from environmentally qualified instrumentation.

Based on our review, we conclude that the post-accident monitoring of the accumulator volume and pressure does not perform a safety function and no operator action is based on information that will require Category 2 qualification of the instrumentation. In lieu of Category 2 qualification, Category 3 qualification of this instrumentation is acceptable.

On the basis of these findings, the staff finds that Condition 2.C.(12)(a) of Facility Operating No. NPF-35 and Condition 2.C.(8)(a) of Facility Operating License No. NPF-52 may be deleted from the license.

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the South Carolina State official was notified of the proposed issuance of the amendments. The State official had no comments.

#### 5.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC 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 radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (57 FR 61111 dated December 23, 1992). 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 the amendments.

#### 6.0 CONCLUSION

The Commission has 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) 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: R. Martin  
I. Ahmed

Date: March 23, 1993