August 15, 1991

Docket Nos. 50-413
and 50-414

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Mr. M.S. Tuckman
Vice President -
Nuclear Operations
Duke Power Company
P.O. Box 1007
Charlotte, North Carolina 28201-1007

Dear Mr. Tuckman:

SUBJECT: ISSUANCE OF AMENDMENT NO. 89 TO FACILITY OPERATING LICENSE NPF-35 AND AMENDMENT NO. 83 TO FACILITY OPERATING LICENSE NPF-52 - CATAWBA NUCLEAR STATION, UNITS 1 AND 2 (TACS 80410 AND 80411)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 89 to Facility Operating License NPF-35 and Amendment No. 83 to Facility Operating License NPF-52 for the Catawba Nuclear Station, Units 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated April 11, 1991, as supplemented May 20, 1991.

The amendments revise the limit for the control rod drop time test from 3.3 seconds to 2.2 seconds.

A copy of the related Safety Evaluation is also enclosed. Notice of issuance of the amendments 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. 89 to NPF-35
2. Amendment No. 83 to NPF-52
3. Safety Evaluation

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cc w/enclosures:
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DATED: August 15, 1991

AMENDMENT NO. 89 TO FACILITY OPERATING LICENSE NPF-35 - Catawba Nuclear Station, Unit 1
AMENDMENT NO. 83 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. 89
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 April 11, 1991, as supplemented May 20, 1991, 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 attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-35 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 89 , 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

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: August 15, 1991

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. 83
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 April 11, 1991, as supplemented May 20, 1991, 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 attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-52 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 83 , 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

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: August 15, 1991

ATTACHMENT TO LICENSE AMENDMENT NO. 89

FACILITY OPERATING LICENSE NO. NPF-35

DOCKET NO. 50-413

AND

TO LICENSE AMENDMENT NO. 83

FACILITY OPERATING LICENSE NO. NPF-52

DOCKET NO. 50-414

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains vertical lines indicating the areas of change.

Remove Page	Insert Page
3/4 1-19	3/4 1-19

REACTIVITY CONTROL SYSTEMS

ROD DROP TIME

LIMITING CONDITION FOR OPERATION

3.1.3.4 The individual full-length shutdown and control rod drop time from the fully withdrawn position shall be less than or equal to 2.2 seconds from beginning of decay of stationary gripper coil voltage to dashpot entry with:

a. T_{avg} greater than or equal to 551°F, and

b. All reactor coolant pumps operating.

APPLICABILITY: MODES 1 and 2.

ACTION:

a. With the drop time of any full-length rod determined to exceed the above limit, restore the rod drop time to within the above limit prior to proceeding to MODE 1 or 2.

b. With the rod drop times within limits but determined with three reactor coolant pumps operating, operation may proceed provided THERMAL POWER is restricted to less than or equal to 66% of RATED THERMAL POWER.

SURVEILLANCE REQUIREMENTS

4.1.3.4 The rod drop time of full-length rods shall be demonstrated through measurement prior to reactor criticality:

a. For all rods following each removal of the reactor vessel head,

b. For specifically affected individual rods following any maintenance on or modification to the Control Rod Drive System which could affect the drop time of those specific rods, and

c. At least once per 18 months.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 89 TO FACILITY OPERATING LICENSE NPF-35

AND AMENDMENT NO. 83 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 April 11, 1991, as supplemented May 20, 1991, the Duke Power Company (the licensee) submitted a request for changes to the Catawba Nuclear Station, Units 1 and 2, Technical Specifications (TS). The requested changes would change TS 3.1.3.4 to reduce the required time limit for the control rod drop time test from 3.3 seconds to 2.2 seconds. These letters also requested that the same changes be made to the TS for the McGuire Nuclear Station. The processing of the changes to the McGuire TS are being handled as a separate action. However, due to the similarity of the two plant's designs, both plants are discussed in this evaluation.

The licensee stated that McGuire Unit 1 was originally licensed with a 2.2 second control rod drop time, but that was changed to 3.3 seconds (in anticipation of longer drop time) as part of the changeover to Westinghouse optimized fuel assemblies (OFA) in 1983 (McGuire 1 and 2 Amendments 32 and 13, respectively). The 3.3 second value was listed as an input assumption in the application for amendment to support McGuire Unit 1 Cycle 2, and is currently used in the Final Safety Analysis Report (FSAR) Chapter 15 analysis. The 3.3 second value was included in the TS issued with the initial operating licenses for Catawba Units 1 and 2 in 1985 and 1986, respectively.

The new 2.2 second drop time will be included in the McGuire Unit 1 Cycle 8 (M1C8) reload submittal and all McGuire and Catawba reloads in the foreseeable future. The NRC staff's evaluation of the licensee's request is addressed below.

2.0 EVALUATION

As noted above, the rod drop time was changed by the NRC in Amendment 32 to the McGuire Unit 1 Facility Operating License. In the NRC's Safety Evaluation Report (SER), which accompanied the amendment, the NRC staff had supported the increased control rod drop time because the increase had been taken into account in the scram curves used for the accident analyses with acceptable results. Similarly, the 2.2 second value is used in the M1C8 analyses as an

input assumption, and as stated in the basis for TS 3.1.3.4, the TS value should be consistent with the value used in the safety analyses. The licensee pointed out that the safety analyses continue to meet the acceptance criteria set forth in the Standard Review Plan (NUREG-0800).

From an operational perspective, this TS change is conservative. It will contribute to better surveillance of the capability of the control rods to insert in a reactor trip. Studies conducted by the licensee have shown that the vast majority of the drop times at McGuire and Catawba are less than 1.7 seconds. Furthermore, the licensee has setup a test evaluation criterion to require an evaluation of the drop times that are greater than the design value of 1.8 seconds. Data submitted by the licensee shows drop times for all four units. Two drops exceeded the design drop of 1.8 seconds, but were still within the proposed TS limit of 2.2 seconds. Further studies by the licensee indicated that the longer drop times were due to the presence of air in the control rod drive mechanisms.

Transient and accident analyses conducted by the licensee in support of the upcoming Unit 1 Cycle 8, show that the acceptance criteria are met in all cases. Also, the margin of safety is maintained throughout the analyses provided the actual rod time is not greater than that assumed in the transient and accident analyses. TS 3.1.3.4 ensures that the scram curves used in the safety analyses are validated by rod drop test results. Test results show that the design drop time of 1.8 seconds remains unaffected, and that the addition of the test review criteria provides additional assurance that anomalous drop behavior is investigated. Test results, data and analyses gathered and conducted by the licensee, shows that the results of the analyses continue to meet the acceptance criteria of the Standard Review Plan.

The NRC staff has reviewed the reports submitted by the licensee for the operation of McGuire Units 1 and 2 and Catawba Units 1 and 2. The staff concludes that the appropriate material was submitted in regard to Technical Specification changes pertaining to rod drop time change from 3.3 to 2.2. The new value of 2.2 seconds will be more restrictive, and therefore, more conservative than the current value of 3.3 seconds, and test results have shown that the new value can be met. Based on this review, the NRC staff has concluded that the requested TS changes satisfy staff positions and requirements in these areas.

3.0 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.

4.0 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 (56 FR 31432). 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.

5.0 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 Contributor: A. Attard, SRXB, DST

Date: August 15, 1991