

Docket Nos.: 50-413
and 50-414

November 20, 1986

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.20 to Facility Operating License NPF-35 and
Amendment No. 10 to Facility Operating License NPF-52 - Catawba
Nuclear Station, Units 1 and 2

The Nuclear Regulatory Commission has issued the enclosed Amendment No.20 to Facility Operating License NPF-35 and Amendment No.10 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 27, 1986, which you subsequently upgraded to emergency status on November 13, 1986. The changes were approved by telephone on November 13, 1986, and confirmed by letter on that same date.

The amendments modify the Technical Specifications to increase the speed of the Auxiliary Feedwater pump turbine from 3600 rpm to up to and including 3800 rpm. The change also provides an additional 72 hours for both units, on a one-time basis, to remain in Mode 3. A copy of the related safety evaluation supporting Amendment No. 20 to Facility Operating License NPF-35 and Amendment No. 10 to Facility Operating License NPF-52 is enclosed. The amendments are effective as of November 13, 1986.

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

Sincerely,

Kahtan Jabbour, Project Manager
PWR Project Directorate #4
Division of PWR Licensing-A

Enclosures:

1. Amendment No.20 to NPF-35
2. Amendment No.10 to NPF-52
3. Safety Evaluation

cc w/enclosures: See next page

Distribution:

See attached page

PWR#4/DPWR-A
MDuncan/mac
11/16/86

^{DSH}
PWR#4/DPWR-A
DHood
11/17/86

^{KNT}
PWR#4/DPWR-A
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11/18/86

^[Signature]
PWR#4/DPWR-A
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11/20/86

OP1

Mr. H. B. Tucker
Duke Power Company

Catawba Nuclear Station

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DATED: November 20, 1986

AMENDMENT NO. 20 TO FACILITY OPERATING LICENSE NPF-35 - Catawba Nuclear Station, Unit 1
AMENDMENT NO. 10 TO FACILITY OPERATING LICENSE NPF-52 - Catawba Nuclear Station, Unit 2

DISTRIBUTION:

Docket File 50-414/415

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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. 20
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 27, 1986, and supplemented November 13, 1986, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's 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 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. 20 and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into the 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 November 13, 1986.

FOR THE NUCLEAR REGULATORY COMMISSION

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Kahtan Jabbour, Project Manager
PWR Project Directorate #4
Division of PWR Licensing-A

Attachment:
Technical Specification
Changes

Date of Issuance: November 20, 1986

PWR#4/DPWR-A
MDunagan:mac
11/16/86

DSH
PWR#4/DPWR-A
DHood
11/18/86

KNS
PWR#4/DPWR-A
KJabbour
11/18/86

OGC/BETH
JOHNSON
11/20/86

PJS
PWR#4/DPWR-A
BJYoungblood
11/20/86

changes to Section
abstract 12.



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. 10
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 27, 1986, and supplemented November 13, 1986, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's 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 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. 10 and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into the 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 November 13, 1986.

FOR THE NUCLEAR REGULATORY COMMISSION

151

Kahtan Jabbour, Project Manager
PWR Project Directorate #4
Division of PWR Licensing-A

Attachment:
Technical Specification
Changes

Date of Issuance: November 20, 1986

PWR#4/DPWR-A
MDuncan:mac
11/18/86

DSH
PWR#4/DPWR-A
DHood
11/18/86

KNT
PWR#4/DPWR-A
KJabbour
11/18/86

OGC/BETH
JOHNSON
11/20/86

PWR#4/DPWR-A
BJYdungblood
11/20/86

Chap to SER 2 Article 12

ATTACHMENT TO LICENSE AMENDMENT NO. 20

FACILITY OPERATING LICENSE NO. NPF-35

DOCKET NO. 50-413

AND

TO LICENSE AMENDMENT NO. 10

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

3/4 7-4

Overleaf
Page

3/4 7-3

TABLE 3.7-2
STEAM LINE SAFETY VALVES PER LOOP

	<u>VALVE NUMBER</u>				<u>LIFT SETTING (\pm 1%)*</u>	<u>ORIFICE SIZE</u>
	<u>Loop A</u>	<u>Loop B</u>	<u>Loop C</u>	<u>Loop D</u>		
1.	SV-20	SV-14	SV-8	SV-2	1175 psig	14.18 in. ²
2.	SV-21	SV-15	SV-9	SV-3	1190 psig	14.18 in. ²
3.	SV-22	SV-16	SV-10	SV-4	1205 psig	14.18 in. ²
4.	SV-23	SV-17	SV-11	SV-5	1220 psig	14.18 in. ²
5.	SV-24	SV-18	SV-12	SV-6	1230 psig	14.18 in. ²

*The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 At least three independent steam generator auxiliary feedwater pumps and associated flow paths shall be OPERABLE with:

- a. Two motor-driven auxiliary feedwater pumps, each capable of being powered from separate emergency busses, and
- b. One steam turbine-driven auxiliary feedwater pump capable of being powered from an OPERABLE steam supply system.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With one auxiliary feedwater pump inoperable, restore the required auxiliary feedwater pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.*
- b. With two auxiliary feedwater pumps inoperable, be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.
- c. With three auxiliary feedwater pumps inoperable, immediately initiate corrective action to restore at least one auxiliary feedwater pump to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.7.1.2.1 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by:
 - 1) Verifying that each motor-driven pump develops a total dynamic head of greater than or equal to 3470 feet at a flow of greater than or equal to 400 gpm;
 - 2) Verifying that the steam turbine-driven pump develops a total dynamic head of greater than or equal to 3550 feet at a flow of greater than or equal to 400 gpm when the secondary steam supply pressure is greater than 600 psig and the auxiliary feedwater pump turbine is operating at less than or equal to 3800 rpm. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3;

*Until 1845 hours on November 16, 1986, for Unit 1 and 0305 hours on November 17, 1986, for Unit 2, operation in Mode 3 is permitted with the Auxiliary Feedwater turbine-driven pump inoperable.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 20 TO FACILITY OPERATING LICENSE NPF-35
AND AMENDMENT NO. 10 TO FACILITY OPERATING LICENSE NPF-52

DUKE POWER COMPANY

DOCKET NOS. 50-413 AND 50-414

CATAWBA NUCLEAR STATION, UNITS 1 AND 2

I. INTRODUCTION

By letter dated October 27, 1986, Duke Power Company, et al., (the licensee) submitted a license amendment request to change the technical specification (TS) for the Catawba Nuclear Station, Units 1 and 2. The change proposes to increase the speed of the Auxiliary Feedwater (CA) pump turbine specified in TS 4.7.1.2.1a.2) from 3600 rpm to up to and including 3800 rpm. With this increase, the CA turbine-driven pump will have added margin to better meet the TS required head and flow.

Subsequently, in a letter dated November 13, 1986, the licensee requested that the proposed amendment contained in the October 27, 1986 letter be granted on an emergency basis. During a surveillance test for Unit 2, which was performed on November 12, 1986 in accordance with TS 4.7.1.2.1a.2), the CA turbine-driven pump did not meet the test acceptance criteria. Unless this pump is returned to operable status by 0305 hours on November 14, 1986, the unit would have to be cooled down to Mode 4 from Mode 3. Similar tests for Unit 1, performed on November 13, 1986, also did not meet the acceptance criteria. The licensee states that the requested change would allow an increase in the developed head sufficient to meet the TS requirements. The requested change would also provide an additional 72 hours for both units, on a one-time basis, to remain in Mode 3 in order to repeat the test and obtain appropriate measurements for operation at the new rpm value.

II. EVALUATION

The staff review of the licensee's request was performed in accordance with the guidelines of the Standard Review Plan, section 3.9.6 and the ASME Boiler and Pressure Vessel Code Section XI. Letters provided by the manufacturer indicate that the pump and turbine can be safely operated at speeds up to and including 3800 rpm with no adverse effect. The manufacturer has stated that the design for the pump turbine will not be affected at operation at or below 3800 rpm. The documentation provided by the licensee verifies that the new speed represents acceptable pump operation. Prior to returning to power the licensee will test the CA pump turbine at the new speed in accordance with TS 4.7.1.2.1a.2). An additional 72 hours is granted in order to perform these tests. Since the pump will operate at higher speed limits, a new set of reference values per Table IWP 3100-1 of the ASME Code, Section XI, will be

developed through these tests prior to exceeding Mode 3, and used as acceptance criteria for future inservice tests. Inservice test quantities such as vibration amplitude, differential pressure and flow rate will be measured quarterly for this pump as part of the Catawba Inservice Test Program developed in accordance with Section XI of the ASME Code.

This change will be implemented by adjusting the rpm setting for the pump turbine governor to a specific value up to 3800 rpm to achieve the same required total dynamic head under the same minimum conditions of flow and secondary steam supply pressure. The increased rpm adjustment would result in a slight increase in actual pump discharge flow and, thereby, enhance system safety performance. Although the pump and turbine would operate with reduced margin in the overspeed trip setpoints (4140 rpm for the electronic overspeed device), the available margin is indicated by the turbine manufacturer to be acceptable for satisfactory turbine operation. Reset controls for the electronic overspeed device are located in the Control Room to alert the operator should reset be needed. Therefore, the proposed rpm setpoint is not expected to result in a significant change in the possibility that the pump safety function would be defeated by exceeding overspeed; also, pump operation following actuation of the overspeed device can be quickly restored, if needed.

On the basis of our review and the requirement to establish new reference values per Paragraph IWP 3111 of the ASME Code, Section XI, the staff concludes that (1) the change will not degrade the pump/turbine, (2) the required head and flow will continue to perform the safety function, and (3) the licensee will continue to test the CA pump turbine in accordance with the Section XI of the Code and the Technical Specification as revised. The staff also finds that the requested one-time extension, by 72 hours, of the time allowed to remain in Mode 3 in order to retest at the new rpm value, is appropriate considering the safety significance of such operation.

III. ENVIRONMENTAL CONSIDERATION

These amendments involve a change to the use of facility components located within the restricted area as defined in 10 CFR Part 20 and 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 radiation exposure. The Commission has made a final no significant hazards consideration finding with respect to the amendments. 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.

IV. FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The State was informed by telephone on November 13, 1986, of the staff's no significant hazards consideration determination. The State contact had no comments on the determination.

The staff has reviewed the licensee's request for the above amendments and determined that should this request for the above amendments be implemented, it would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated because the temporary unavailability of the turbine-driven pump (whether as a result of overspeed trip or the extension by 72 hours of the allowed period for the reactor to remain in Mode 3 to repeat the test) has no effect on the most severe accident (i.e., feedwater system pipe break) previously evaluated by the staff in Section 15.3.3 of the Catawba SER, NUREG-0954. In this accident a double-ended rupture of the largest feedwater line was assumed. The turbine-driven auxiliary feedwater pump is assumed to fail and all flow from one of the two motor-driven pumps spills out through the break. The flow from the other motor-driven pump would supply the two intact steam generators. The staff concluded in NUREG-0954 that the consequences of that accident were acceptable. In addition, the proposed change would allow the turbine-driven pump to better fulfill its intended function during an accident and thus would potentially decrease the consequences of an accident. Also, it would not (2) create the possibility of a new or different kind of accident from any accident previously evaluated because the only effect of the change is on the availability and capability of the turbine-driven feedwater pump and, as discussed above, for the accident of relevance (the failure of a feedwater line) the turbine-driven feedwater pump is assumed to fail. In addition, operation of the auxiliary feedwater turbine-driven pump at the increased speed has been evaluated by the manufacturer and found acceptable and because the proposed change introduces no new mode of operation (only a slightly higher operating speed) and no physical modifications (other than adjustment of the pump turbine governor). Finally, it would not (3) involve a significant reduction in a margin of safety because, while the temporary unavailability of the turbine-driven auxiliary feedwater pump would slightly reduce the safety margin, this reduction has been determined not to be significant in light of the accident evaluation discussed above. In addition, the increase in pump speed and the accompanying increase in the actual turbine-driven pump discharge flow would allow the pump to better perform its safety functions and the slight decrease in margin to the overspeed trip setpoints is not deemed significant and the pump can be promptly reset if needed. Accordingly, the Commission proposes to find that the change does not involve a significant hazards consideration.

V. FINDINGS OF EMERGENCY WARRANTING AN AMENDMENT WITHOUT NOTICE

The licensee's application for the Technical Specification change has been timely. The licensee states that it was only recently recognized that additional operating margin might be needed in order for the turbine-driven auxiliary feedwater pumps to meet requirements. The first request by letter dated October 27, 1986, was submitted in anticipation of the need for increased flexibility to meet TS requirements. The licensee's request for emergency amendments resulted from surveillance tests in accordance with TS 4.7.1.2.1a.2). The test for Unit 2 was conducted on November 12, 1986 as the unit was returning from a maintenance outage and upon reaching Mode 3. At 3600 rpm, the Unit 2 pump produced slightly less than the required head and the pump was declared inoperable. Without these amendments, the Unit 2 pump would have to be returned to operable status by 0305 hours on November 14, 1986, or the unit would have to be cooled down to Mode 4. Catawba Unit 1 was similarly tested on November 13, 1986, upon returning from a refueling outage, and also did not meet the acceptance criteria. Without these amendments, the Unit 1 pump would have to be returned to operable status by 1845 hours on

November 13, 1986, or the unit would have to be cooled down to Mode 4. The requested change provides for an increase in the developed head sufficient to meet the Technical Specification requirements. The change also requires that an additional time for operation in Mode 3 be allowed, on a one-time basis, in order to obtain measurements required by ASME Code, Section XI when pump/turbine parameters are changed. The licensee contacted the NRC staff promptly after the test results were obtained. Since the need for emergency action arises from results of tests which must be performed with the plant in Mode 3, the licensee could not have reasonably avoided this situation.

The staff finds that failure to grant the proposed change in a timely manner would increase the outage time of the units. We also find that the licensee could not reasonably have avoided this situation, that the licensee has responded in a timely manner, and has not delayed its application to take advantage of the Emergency License Amendments provisions of 10 CFR 50.91. Accordingly, the staff concludes that the licensee has satisfied the requirements of 10 CFR 50.91(a)(5), and that a valid emergency exists.

VI. CONCLUSION

The staff 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, and (2) such activities will be conducted in compliance with the Commission's regulations, and (3) 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 Contributors: Kahtan Jabbour, PWR#4
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Dated: November 20, 1986