

February 29, 1988

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. 41 to Facility Operating License NPF-35  
and Amendment No. 34 to Facility Operating License NPF-52 - Catawba  
Nuclear Station, Units 1 and 2 (TACS 66755/66756)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 41 to Facility Operating License NPF-35 and Amendment No. 34 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 application dated December 3, 1987.

The amendments modify the Technical Specifications to increase by 50% the allowed containment overall integrated leakage rate. The amendments are effective as of their date of issuance.

A copy of the related safety evaluation supporting Amendment No. 41 to Facility Operating License NPF-35 and Amendment No. 34 to Facility Operating License NPF-52 is enclosed.

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

Enclosures:

1. Amendment No. 41 to NPF-35
2. Amendment No. 34 to NPF-52
3. Safety Evaluation

cc w/enclosures: See next page

PDII-3/DRPI/II  
MRood/mac  
01/14/88

*KNS*  
PDII-3/DRPI/II  
KJabbour  
01/20/88

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PDII-3/DRPI/II  
Acting PD  
01/20/88

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PDR ADOCK 05000413  
P PDR



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. 41  
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 3, 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 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:

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PDR ADDCK 05000413  
P PDR

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 41, 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 its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Darl Hood, Acting Director  
Project Directorate II-3  
Division of Reactor Projects I/II

Attachment:  
Technical Specification Changes

Date of Issuance: February 29, 1988

PDII-3/DRPI/II  
MRood/mac  
01/14/88

PDII-3/DRPI/II  
Acting PD  
01/20/88

*KNS*  
PDII-3/DRPI/II  
KJabbour  
01/20/88

*KNS*  
AD/DRPII  
G. L. Inas  
01/19/88

*L. J. Cunningham*  
NRR/SPLB  
~~J. Craig~~  
01/25/88  
*[Signature]*

*[Signature]*  
OGC-Bethesda  
J. H. Lewis  
02/1/88



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. 34  
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 3, 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 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. 34, 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 its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Darl Hood, Acting Director  
Project Directorate II-3  
Division of Reactor Projects I/II

Attachment:  
Technical Specification Changes

Date of Issuance: February 29, 1988

PDII-3/DRPI/II  
MRood/mac  
01/14/88

PDII-3/DRPI/II  
Acting PD  
01/20/88

*KNS*  
PDII-3/DRPI/II  
KJabbour  
01/20/88

*GL*  
AD/DRPII  
GL/Inas  
01/29/88

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NRR/SPLB PRPB  
JCraig  
01/25/88

*L. J. Cunningham*  
OGC-Bethesda  
S. Lewis  
02/1/88

ATTACHMENT TO LICENSE AMENDMENT NO. 41

FACILITY OPERATING LICENSE NO. NPF-35

DOCKET NO. 50-413

AND

TO LICENSE AMENDMENT NO. 34

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 a vertical line indicating the area of change.

Amended  
Page

3/4 6-2

Overleaf  
Page

3/4 6-1

### 3/4.6 CONTAINMENT SYSTEMS

#### 3/4.6.1 PRIMARY CONTAINMENT

##### CONTAINMENT INTEGRITY

##### LIMITING CONDITION FOR OPERATION

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3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

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

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

##### SURVEILLANCE REQUIREMENTS

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4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

- a. At least once per 31 days by verifying that all penetrations\* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except as provided in Table 3.6-2 of Specification 3.6.3;
- b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3; and
- c. After each closing of each penetration subject to Type B testing, except the containment air locks, if opened following a Type A or B test, by leak rate testing the seal with gas at a pressure not less than  $P_a$ , 14.68 psig, and verifying that when the measured leakage rate for these seals is added to the leakage rates determined pursuant to Specification 4.6.1.2d. for all other Type B and C penetrations, the combined leakage rate is less than to  $0.60 L_a$ .

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\* Except valves, blind flanges, and deactivated automatic valves which are located inside the annulus or the containment and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.

## CONTAINMENT SYSTEMS

### CONTAINMENT LEAKAGE

#### LIMITING CONDITION FOR OPERATION

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3.6.1.2 Containment leakage rates shall be limited to:

- a. An overall integrated leakage rate of:
  - 1) Less than or equal to  $L_a$ , 0.30% by weight of the containment air per 24 hours at  $P_a$ , 14.68 psig, or
  - 2) (Unit 1) Less than or equal to  $L_t$ , 0.122% by weight of the containment air per 24 hours at a reduced pressure of  $P_t$ , 7.34 psig.
- b. A combined leakage rate of less than  $0.60 L_a$  for all penetrations and valves subject to Type B and C tests, when pressurized to  $P_a$ , and
- c. A combined bypass leakage rate of less than  $0.07 L_a$  for all penetrations identified in Table 3.6-1 as secondary containment bypass leakage paths when pressurized to  $P_a$ .

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

#### ACTION:

With: (a) the measured overall integrated containment leakage rate exceeding  $0.75 L_a$  or  $0.75 L_t$ , as applicable, or (b) the measured combined leakage rate for all penetrations and valves subject to Types B and C tests exceeding  $0.60 L_a$ , or (c) the combined bypass leakage rate exceeding  $0.07 L_a$ , restore the overall integrated leakage rate to less than  $0.75 L_a$  or less than  $0.75 L_t$ , as applicable, and the combined leakage rate for all penetrations and valves subject to Type B and C tests to less than  $0.60 L_a$ , and the combined bypass leakage rate to less than  $0.07 L_a$  prior to increasing the Reactor Coolant System temperature above 200°F.

#### SURVEILLANCE REQUIREMENTS

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4.6.1.2 The containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR Part 50 using the methods and provisions of ANSI N45.4-1972 or the mass-plot method:





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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 41 TO FACILITY OPERATING LICENSE NPF-35  
AND AMENDMENT NO. 34 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 December 3, 1987, Duke Power Company, et al., (the licensee) proposed amendments to the operating licenses for Catawba Nuclear Station, Units 1 and 2, which would change Technical Specification (TS) 3.6.1.2 to increase by 50% the allowed containment overall integrated leakage rate.

EVALUATION

These amendments increase the containment overall integrated leakage rate in TS 3.6.1.2 from its previous  $L_c$  value of 0.20% per day to 0.30% per day. ( $L_c$  is as defined in Appendix J to <sup>a</sup>10 CFR 50, corresponding at Catawba to a containment pressure of 14.68 psig).

While this change would generally increase the doses estimated under accident conditions, the licensee has shown that by taking credit for the existing containment spray iodine removal system, the dose guidelines as specified in 10 CFR 100 and General Design Criterion-19 would not be exceeded. By its letter of December 3, 1987, the licensee provided radiation exposure calculations for a design basis LOCA using the methodology from Revision 1 of the Standard Review Plan (SRP), Section 6.5.2. SRP Section 6.5.2 recognizes that containment spray systems with boric acid spray solutions have been shown to be effective for removal of elemental and particulate iodine. This permits the licensee to take credit for the iodine removal effect of boric acid which is contained in containment spray water for other reasons. The analyses demonstrate for thyroid doses that the proposed 50% increase in the containment leakage rate is nearly offset by the effect of the spray system. Since noble gases are unaffected by containment sprays, the increased containment leakage rate results in increased whole body and skin doses. However, for the Catawba Nuclear Station, thyroid radiation exposure is the limiting criterion, and the licensee's calculations show that the whole body and skin doses remain well below the acceptance criteria in Appendix A of SRP Section 15.6.5 for offsite exposure (i.e., 10 CFR 100.11 values) and acceptance criteria in SRP 6.4 (i.e., GDC 19) for control room personnel.

The previous and revised results calculated by the licensee and the appropriate criteria are:

<u>Onsite Dose (Rem)</u>			<u>Offsite Dose (Rem)</u>			
<u>Inside Control Room</u>			<u>Exclusion Area Boundary</u>		<u>Low Population Zone</u>	
<u>Whole Body</u>	<u>Skin</u>	<u>Thyroid</u>	<u>Whole Body</u>	<u>Thyroid</u>	<u>Whole Body</u>	<u>Thyroid</u>
Current Values						
0.46	9	25.9	2.99	115	0.761	50.8
Revised Values						
0.70	14	18.9	4.47	131	0.863	29.7
Allowable Limits						
5	30	30	25	300	25	300

For onsite and offsite doses, we examined the analyses and consequences of the increased containment leak rate as calculated by the licensee and concluded that the habitability systems for the shared control room are such that the doses meet the guidelines of GDC-19.

On the basis of our review, we find the licensee's revised analyses which reflect credit for the containment spray system to be consistent with SRP 6.5.2 and to result in doses within the guidelines of 10 CFR 100 and the requirements of GDC-19. The requested revision to TS 3.6.1.2 is, therefore, acceptable.

ENVIRONMENTAL CONSIDERATION

These amendments involve changes to the use of facility components located within the restricted area as defined in 10 CFR Part 20. 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 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.

CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (53 FR 2311) on January 27, 1988. 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 Contributors: K. Jabbour, PDII-3/DRPI/II

Dated: February 29, 1988

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Duke Power Company

Catawba Nuclear Station

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DATED: February 29, 1988

AMENDMENT NO. 41 TO FACILITY OPERATING LICENSE NPF-35 - Catawba Nuclear Station, Unit 1  
AMENDMENT NO. 34 TO FACILITY OPERATING LICENSE NPF-52 - Catawba Nuclear Station, Unit 2

DISTRIBUTION:

~~Docket File~~ 50-413/414

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NSIC

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