



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

September 5, 2000

Mr. G. R. Peterson
Site Vice President
Catawba Nuclear Station
Duke Energy Corporation
4800 Concord Road
York, South Carolina 29745-9635

**SUBJECT: CATAWBA NUCLEAR STATION, UNITS 1 AND 2 RE: ISSUANCE OF
AMENDMENTS (TAC NOS. MA8888 AND MA8889)**

Dear Mr. Peterson:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 187 to Facility Operating License NPF-35 and Amendment No. 180 to Facility Operating License NPF-52 for the Catawba Nuclear Station, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated April 18, 2000, as supplemented by letter dated July 27, 2000.

The amendments revise TS 3.7.10, "Control Room Area Ventilation System," and TS 3.7.12 "Auxiliary Building Filtered Ventilation Exhaust System," to establish actions to be taken for inoperable ventilation systems due to a degraded control room pressure boundary or emergency core cooling system pump rooms pressure boundary, respectively.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Chandu P. Patel

Chandu P. Patel, Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-413 and 50-414

Enclosures:

1. Amendment No. 187 to NPF-35
2. Amendment No. 180 to NPF-52
3. Safety Evaluation

cc w/encls: See next page

Mr. G. R. Peterson
 Site Vice President
 Catawba Nuclear Station
 Duke Energy Corporation
 4800 Concord Road
 York, South Carolina 29745-9635

September 5, 2000

SUBJECT: CATAWBA NUCLEAR STATION, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS (TAC NOS. MA8888 AND MA8889)

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The Nuclear Regulatory Commission has issued the enclosed Amendment No. 187 to Facility Operating License NPF-35 and Amendment No. 180 to Facility Operating License NPF-52 for the Catawba Nuclear Station, Units 1 and 2. The amendments consist of changes to the Technical Specifications(TS) in response to your application dated April 18, 2000, as supplemented by letter dated July 27, 2000.

The amendments revise TS 3.7.10, "Control Room Area Ventilation System," and TS 3.7.12 "Auxiliary Building Filtered Ventilation Exhaust System," to establish actions to be taken for inoperable ventilation systems due to a degraded control room pressure boundary or emergency core cooling system pump rooms pressure boundary, respectively.

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/RA/

Chandu P. Patel, Project Manager, Section 1
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

DUKE ENERGY CORPORATION
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. 187
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 Energy Corporation, acting for itself, North Carolina Electric Membership Corporation and Saluda River Electric Cooperative, Inc. (licensees), dated April 18, 2000, as supplemented by letter dated July 27, 2000, 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:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 187 , which are attached hereto, are hereby incorporated into this license. Duke Energy Corporation shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Richard L. Emch, Jr., Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: September 5, 2000



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

DUKE ENERGY CORPORATION
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. 180
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 Energy Corporation, acting for itself, North Carolina Municipal Power Agency No. 1 and Piedmont Municipal Power Agency (licensees), dated April 18, 2000, as supplemented by letter dated July 27, 2000, 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:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 180 , which are attached hereto, are hereby incorporated into this license. Duke Energy Corporation shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Richard L. Emch, Jr., Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: September 5, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 187

FACILITY OPERATING LICENSE NO. NPF-35

DOCKET NO. 50-413

AND LICENSE AMENDMENT NO. 180

FACILITY OPERATING LICENSE NO. NPF-52

DOCKET NO. 50-414

Replace the following pages of the Appendix A Technical Specifications and associated Bases with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

Insert

3.7.10-1

3.7.10-1

3.7.10-2

3.7.10-2

3.7.10-3

3.7.10-3

3.7.12-1

3.7.12-1

B 3.7.10-3

B 3.7.10-3

B 3.7.10-4

B 3.7.10-4

B 3.7.10-5

B 3.7.10-5

B 3.7.10-6

B 3.7.10-6

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B 3.7.10-7

B 3.7.12-3

B 3.7.12-3

B 3.7.12-4

B 3.7.12-4

B 3.7.12-5

B 3.7.12-5

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B 3.7.12-6

3.7 PLANT SYSTEMS

3.7.10 Control Room Area Ventilation System (CRAVS)

LCO 3.7.10 Two CRAVS trains shall be OPERABLE.

-----NOTE-----
The control room pressure boundary may be opened intermittently under administrative controls.

APPLICABILITY: MODES 1, 2, 3, 4, 5, and 6,
During movement of irradiated fuel assemblies,
During CORE ALTERATIONS.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CRAVS train inoperable.	A.1 Restore CRAVS train to OPERABLE status.	7 days
B. Two CRAVS trains inoperable due to inoperable control room pressure boundary in MODES 1, 2, 3, or 4.	B.1 Restore control room pressure boundary to OPERABLE status.	24 hours
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, 3, or 4.	C.1 Be in MODE 3.	6 hours
	<u>AND</u> C.2 Be in MODE 5.	36 hours

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. Required Action and associated Completion Time of Condition A not met in MODE 5 or 6, or during movement of irradiated fuel assemblies, or during CORE ALTERATIONS.</p>	<p>D.1 -----NOTE----- Place in high chlorine protection mode if automatic transfer to high chlorine protection mode is inoperable. -----</p> <p>Place OPERABLE CRAVS train in operation.</p> <p><u>OR</u></p> <p>D.2.1 Suspend CORE ALTERATIONS.</p> <p><u>AND</u></p> <p>D.2.2 Suspend movement of irradiated fuel assemblies.</p>	<p>Immediately</p> <p>Immediately</p> <p>Immediately</p>
<p>E. Two CRAVS trains inoperable in MODE 5 or 6, or during movement of irradiated fuel assemblies, or during CORE ALTERATIONS.</p>	<p>E.1 Suspend CORE ALTERATIONS.</p> <p><u>AND</u></p> <p>E.2 Suspend movement of irradiated fuel assemblies.</p>	<p>Immediately</p> <p>Immediately</p>
<p>F. Two CRAVS trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.</p>	<p>F.1 Enter LCO 3.0.3.</p>	<p>Immediately</p> <p>(continued</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
G. One or more CRAVS train(s) heater inoperable.	G.1 Restore CRAVS train(s) heater to OPERABLE status.	7 days
	<p style="text-align: center;"><u>OR</u></p> G.2 Initiate action in accordance with Specification 5.6.6.	7 days

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.10.1 Operate each CRAVS train for ≥ 10 continuous hours with the heaters operating.	31 days
SR 3.7.10.2 Perform required CRAVS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with VFTP
SR 3.7.10.3 Verify each CRAVS train actuates on an actual or simulated actuation signal.	18 months
SR 3.7.10.4 Verify one CRAVS train can maintain a positive pressure of ≥ 0.125 inches water gauge, relative to the adjacent areas during the pressurization mode of operation at a makeup flow rate of ≤ 4000 cfm.	18 months on a STAGGERED TEST BASIS

3.7 PLANT SYSTEMS

3.7.12 Auxiliary Building Filtered Ventilation Exhaust System (ABFVES)

LCO 3.7.12 Two ABFVES trains shall be OPERABLE.

-----NOTE-----
The ECCS pump rooms pressure boundary may be opened intermittently under administrative controls.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One ABFVES train inoperable.	A.1 Restore ABFVES train to OPERABLE status.	7 days
B. Two ABFVES trains inoperable due to inoperable ECCS pump rooms pressure boundary.	B.1 Restore ECCS pump rooms pressure boundary to OPERABLE status.	24 hours
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Be in MODE 3. <u>AND</u> C.2 Be in MODE 5.	6 hours 36 hours
D. One or more ABFVES train(s) heater inoperable.	D.1 Restore ABFVES train(s) heater to OPERABLE status. <u>OR</u> D.2 Initiate action in accordance with Specification 5.6.6.	7 days 7 days

BASES

LCO (continued)

OPERABLE to ensure that at least one is available assuming a single failure disables the other train. Total system failure could result in exceeding a dose of 5 rem to the control room operator in the event of a large radioactive release.

The CRAVS is considered **OPERABLE** when the individual components necessary to limit operator exposure are **OPERABLE** in both trains. A CRAVS train is **OPERABLE** when the associated:

- a. Fan is **OPERABLE**;
- b. HEPA filters and carbon adsorbers are not excessively restricting flow, and are capable of performing their filtration functions; and
- c. Ductwork, valves, and dampers are **OPERABLE**, and air circulation can be maintained.

In addition, the control room boundary must be maintained, including the integrity of the walls, floors, ceilings, ductwork, and access doors.

The CRAVS is shared between the two units. The system must be **OPERABLE** for each unit when that unit is in the **MODE** of Applicability. Additionally, both normal and emergency power must also be **OPERABLE** because the system is shared. If a CRAVS component becomes inoperable, or normal or emergency power to a CRAVS component becomes inoperable, then the Required Actions of this LCO must be entered independently for each unit that is in the **MODE** of applicability of the LCO.

The LCO is modified by a Note allowing the control room pressure boundary to be opened intermittently under administrative controls. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for control room pressure boundary isolation is indicated.

APPLICABILITY

In **MODES 1, 2, 3, 4, 5, and 6**, and during movement of irradiated fuel assemblies and during **CORE ALTERATIONS**, CRAVS must be **OPERABLE** to control operator exposure during and following a **DBA**.

BASES

APPLICABILITY (continued)

During movement of irradiated fuel assemblies and in MODE 6, for CORE ALTERATIONS, the CRAVS must be OPERABLE to cope with the release from a fuel handling accident.

ACTIONS

A.1

When one CRAVS train is inoperable, action must be taken to restore OPERABLE status within 7 days. In this Condition, the remaining OPERABLE CRAVS train is adequate to perform the control room protection function. However, the overall reliability is reduced because a single failure in the OPERABLE CRAVS train could result in loss of CRAVS function. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and ability of the remaining train to provide the required capability.

B.1

If the control room pressure boundary is inoperable in MODES 1, 2, 3, or 4 such that the CRAVS trains cannot establish or maintain the required pressure, action must be taken to restore an OPERABLE control room pressure boundary within 24 hours. During the period that the control room pressure boundary is inoperable, appropriate compensatory measures (consistent with the intent of GDC 19) should be utilized to protect control room operators from potential hazards such as radioactive contamination, toxic chemicals, smoke, temperature and relative humidity, and physical security. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition. The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period and the use of compensatory measures. The 24 hour Completion Time is a typically reasonable time to diagnose, plan and possibly repair, and test most problems with the control room pressure boundary.

C.1 and C.2

In MODE 1, 2, 3, or 4, if the inoperable CRAVS or control room pressure boundary train cannot be restored to OPERABLE status within the required Completion Time, the unit must be placed in a MODE that minimizes accident risk. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

BASES

ACTIONS (continued)

D.1, D.2.1, and D.2.2

In MODE 5 or 6, or during movement of irradiated fuel assemblies, or during CORE ALTERATIONS, if the inoperable CRAVS train cannot be restored to OPERABLE status within the required Completion Time, action must be taken to immediately place the OPERABLE CRAVS train in operation. This action ensures that the remaining train is OPERABLE, that no failures preventing automatic actuation will occur, and that any active failure would be readily detected.

An alternative to Required Action D.1 is to immediately suspend activities that could result in a release of radioactivity that might require isolation of the control room. This places the unit in a condition that minimizes risk. This does not preclude the movement of fuel to a safe position.

Required Action D.1 is modified by a Note indicating to place the system in the chlorine protection mode if automatic transfer to high chlorine protection mode is inoperable.

E.1 and E.2

In MODE 5 or 6, or during movement of irradiated fuel assemblies, or during CORE ALTERATIONS, with two CRAVS trains inoperable, action must be taken immediately to suspend activities that could result in a release of radioactivity that might enter the control room. This places the unit in a condition that minimizes accident risk. This does not preclude the movement of fuel to a safe position.

F.1

If both CRAVS trains are inoperable in MODE 1, 2, 3, or 4, for reasons other than Condition B, the CRAVS may not be capable of performing the intended function and the unit is in a condition outside the accident analyses. Therefore, LCO 3.0.3 must be entered immediately.

G.1 and G.2

With one or more CRAVS heaters inoperable, the heater must be restored to OPERABLE status within 7 days. Alternatively, a report must be initiated per Specification 5.6.6, which details the reason for the heater's inoperability and the corrective action required to return the

BASES

ACTIONS (continued)

heater to OPERABLE status.

The heaters do not affect OPERABILITY of the CRAVS filter trains because charcoal adsorber efficiency testing is performed at 30°C and 95% relative humidity. The accident analysis shows that site boundary radiation doses are within 10 CFR 100 limits during a DBA LOCA under these conditions.

**SURVEILLANCE
REQUIREMENTS**

SR 3.7.10.1

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not too severe, testing each train once every month provides an adequate check of this system. Monthly heater operations dry out any moisture accumulated in the carbon from humidity in the ambient air. Systems with heaters must be operated from the control room for ≥ 10 continuous hours with the heaters energized and flow through the HEPA filters and charcoal adsorbers. The 31 day Frequency is based on the reliability of the equipment and the two train redundancy availability.

SR 3.7.10.2

This SR verifies that the required CRAVS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The CRAVS filter tests are in accordance with Regulatory Guide 1.52 (Ref. 5). The VFTP includes testing the performance of the HEPA filter, carbon adsorber efficiency, minimum flow rate, and the physical properties of the activated carbon. Specific test Frequencies and additional information are discussed in detail in the VFTP.

SR 3.7.10.3

This SR verifies that each CRAVS train starts and operates on an actual or simulated actuation signal. The Frequency of 18 months is specified in Regulatory Guide 1.52 (Ref. 5).

BASES

SURVEILLANCE REQUIREMENTS (continued)**SR 3.7.10.4**

This SR verifies the integrity of the control room enclosure, and the assumed inleakage rates of the potentially contaminated air. The control room positive pressure, with respect to potentially contaminated adjacent areas, is periodically tested to verify proper functioning of the CRAVS. During the emergency mode of operation, the CRAVS is designed to pressurize the control room ≥ 0.125 inches water gauge positive pressure with respect to adjacent areas in order to prevent unfiltered inleakage. The CRAVS is designed to maintain this positive pressure with one train at a makeup flow rate of 4000 cfm. The Frequency of 18 months on a STAGGERED TEST BASIS is consistent with the guidance provided in NUREG-0800 (Ref. 6).

REFERENCES

1. UFSAR, Section 6.4.
2. UFSAR, Section 9.4.1
3. UFSAR, Chapter 15.
4. 10 CFR 50.36, Technical Specifications, (c)(2)(ii).
5. Regulatory Guide 1.52, Rev. 2.
6. NUREG-0800, Section 6.4, Rev. 2, July 1981.

BASES

LCO (continued)

The LCO is modified by a Note allowing the ECCS pump rooms pressure boundary to be opened intermittently under administrative controls. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for ECCS pump rooms pressure boundary isolation is indicated.

APPLICABILITY

In MODES 1, 2, 3, and 4, the ABFVES is required to be OPERABLE consistent with the OPERABILITY requirements of the ECCS.

In MODE 5 or 6, the ABFVES is not required to be OPERABLE since the ECCS is not required to be OPERABLE.

ACTIONS

A.1

With one ABFVES train inoperable, action must be taken to restore OPERABLE status within 7 days. During this time, the remaining OPERABLE train is adequate to perform the ABFVES function.

The 7 day Completion Time is appropriate because the risk contribution is less than that for the ECCS (72 hour Completion Time), and this system is not a direct support system for the ECCS. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and ability of the remaining train to provide the required capability.

Concurrent failure of two ABFVES trains would result in the loss of functional capability; therefore, LCO 3.0.3 must be entered immediately.

B.1

If the ECCS pump rooms pressure boundary is inoperable such that the ABFVES trains cannot establish or maintain the required pressure, action must be taken to restore an OPERABLE ECCS pump rooms pressure boundary within 24 hours. During the period that the ECCS pump rooms pressure boundary is inoperable, appropriate compensatory measures (consistent with the intent, as applicable, of GDC 19, 60, 64, and 10CFR100) should be utilized to protect plant personnel from potential

BASES

ACTIONS (continued)

hazards such as radioactive contamination, toxic chemicals, smoke, temperature and relative humidity, and physical security. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition. The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period and the use of compensatory measures. The 24 hour Completion Time is a typically reasonable time to diagnose, plan and possibly repair, and test most problems with the ECCS pump rooms pressure boundary.

C.1 and C.2

If the ABFVES train or ECCS pump rooms pressure boundary cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

D.1 and D.2

With one or more ABFVES heaters inoperable, the heater must be restored to OPERABLE status within 7 days. Alternatively, a report must be initiated per Specification 5.6.6, which details the reason for the heater's inoperability and the corrective action required to return the heater to OPERABLE status.

The heaters do not affect OPERABILITY of the ABFVES filter trains because charcoal adsorber efficiency testing is performed at 30°C and 95% relative humidity. The accident analysis shows that site boundary radiation doses are within 10 CFR 100 limits during a DBA LOCA under these conditions.

**SURVEILLANCE
REQUIREMENTS**

SR 3.7.12.1

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not severe, testing each train once a month provides an adequate check on this system. Monthly heater operations dry out any moisture that may have accumulated in the carbon from humidity in the ambient air. Systems with heaters must be operated from the control room \geq 10 continuous hours with flow through the HEPA filters and

BASES

SURVEILLANCE REQUIREMENTS (continued)

charcoal adsorbers and with the heaters energized. The 31 day Frequency is based on the known reliability of equipment and the two train redundancy available.

SR 3.7.12.2

This SR verifies that the required ABFVES testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The ABFVES filter tests are in accordance with Reference 5. The VFTP includes testing HEPA filter performance, carbon adsorbers efficiency, minimum system flow rate, and the physical properties of the activated carbon (general use and following specific operations). Specific test Frequencies and additional information are discussed in detail in the VFTP.

SR 3.7.12.3

This SR verifies that each ABFVES train starts and operates with flow through the HEPA filters and charcoal adsorbers on an actual or simulated actuation signal. The 18 month Frequency is consistent with that specified in Reference 4.

SR 3.7.12.4

This SR verifies the integrity of the ECCS pump room enclosure. The ability of the ECCS pump room to maintain a negative pressure, with respect to potentially uncontaminated adjacent areas, is periodically tested to verify proper functioning of the ABFVES. During the post accident mode of operation, the ABFVES is designed to maintain a slight negative pressure in the ECCS pump room, with respect to adjacent areas, to prevent unfiltered LEAKAGE. The Frequency of 18 months is consistent with the guidance provided in NUREG-0800, Section 6.5.1 (Ref. 8).

This test is conducted with the tests for filter penetration; thus, an 18 month Frequency on a STAGGERED TEST BASIS is consistent with that specified in Reference 5.

BASES

REFERENCES

1. UFSAR, Section 6.5.
2. UFSAR, Section 9.4.
3. UFSAR, Section 14.4.
4. UFSAR, Section 15.6.
5. Regulatory Guide 1.52 (Rev. 2).
6. 10 CFR 100.11.
7. 10 CFR 50.36, Technical Specifications, (c)(2)(ii).
8. NUREG-0800, Section 6.5.1, Rev. 2, July 1981.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 187 TO FACILITY OPERATING LICENSE NPF-35

AND AMENDMENT NO. 180 TO FACILITY OPERATING LICENSE NPF-52

DUKE ENERGY CORPORATION, ET AL.

CATAWBA NUCLEAR STATION, UNITS 1 AND 2

DOCKET NOS. 50-413 AND 50-414

1.0 INTRODUCTION

By letter dated April 18, 2000, as supplemented by letter dated July 27, 2000, Duke Energy Corporation, et al. (DEC, the licensee), submitted a request for changes to the Catawba Nuclear Station, Units 1 and 2, Technical Specifications (TS). The requested changes would revise TS 3.7.10, "Control Room Area Ventilation System (CRAVS)," and TS 3.7.12 "Auxiliary Building Filtered Ventilation Exhaust System (ABFVES)," to establish actions to be taken for inoperable ventilation systems due to a degraded control room pressure boundary (CRPB) or Emergency Core Cooling System (ECCS) pump rooms pressure boundary, respectively. The proposed changes would allow up to 24 hours to restore the pressure boundary to operable status when two ventilation trains are inoperable due to an inoperable pressure boundary in MODES 1, 2, 3, and 4. In addition, a Limiting Condition for Operation (LCO) Note would be added to allow the pressure boundary to be opened intermittently under administrative control without affecting CRAVS or ABFVES operability. The applicable TS Bases have been revised to document the TS changes and to provide supporting information. These changes are based on Technical Specifications Task Force (TSTF) -287 to the Standard Technical Specifications (STS).

The July 27, 2000, letter provided additional clarifications that did not change the original no significant hazards consideration determination.

2.0 BACKGROUND

The existing LCO 3.7.10 surveillance requirements that test the integrity of the control room boundary require a positive pressure limit to be satisfied with one ventilation train operating. While other surveillance requirements in the same specification test the operability and function of the ventilation train, the pressure test ensures that the control room pressure boundary leak tightness is adequate to meet design assumptions for post-accident operator doses.

The existing LCO 3.7.12 surveillance requirements that test the integrity of the ECCS pump rooms pressure boundary require a negative pressure limit to be satisfied with one ventilation train operating. While other surveillance requirements in the same specification test the operability and function of the ventilation train, the pressure test ensures that the boundary leak tightness is adequate to meet design assumptions for post-accident plant personnel doses.

Currently, there are no corresponding Condition, Required Actions, or Completion Times specified in LCOs 3.7.10 and 3.7.12 should the pressure boundary surveillances not be met. Under the existing specifications, LCO 3.0.3 must be entered (for two-train inoperability). Requiring the plant to enter LCO 3.0.3 when the ventilation boundary is not intact does not provide time to effect required repairs or corrective maintenance activities.

The proposed change is similar in nature to STS LCOs for secondary containment for boiling-water reactor and shield building for pressurized-water reactor which allows 24 hours to restore secondary containment or shield building envelope to operable status before requiring an orderly shutdown from operating conditions.

3.0 EVALUATION

3.1 Control Room Area Ventilation System

The proposed changes to TS 3.7.10 are:

1. A Note has been added to LCO 3.7.10 for the CRAVS to allow the control room boundary to be opened intermittently under administrative controls. Corresponding Bases have been added which establish the administrative controls that are required to minimize the consequences of the open boundary.
2. A new Condition B is added to LCO 3.7.10 to specify that 24 hours are allowed to restore an inoperable control room boundary to operable status. All other conditions have been administratively re-labeled to support this change. Corresponding Bases are added to support this change.
3. Condition F of LCO 3.7.10 for two inoperable CRAVS trains in MODES 1-4 is modified to exclude entry into this Condition when the trains are inoperable because of the degraded control room pressure boundary. The associated Bases for Condition F are revised accordingly.

The LCO is modified by a Note allowing the control room boundary to be opened intermittently under administrative controls. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for control room area isolation is indicated.

If the control room boundary is inoperable in MODES 1, 2, 3, and 4 such that the CRAVS trains cannot establish or maintain the required pressure, action must be taken to restore control room pressure boundary to an OPERABLE status within 24 hours.

The proposed changes would allow 24 hours (during Modes 1, 2, 3, and 4) to restore the capability to maintain control room boundary pressure before requiring the unit to perform an orderly shutdown and also allows intermittent opening of the control room boundary under administrative controls. During the period that the control room boundary is inoperable, appropriate compensatory measures consistent with the intent of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix A, General Design Criteria (GDC) 19 will be

utilized to protect the control room operators from potential hazards such as radioactive contamination, toxic chemicals, smoke, temperature and relative humidity and to ensure physical security. These preplanned measures will be available to address these concerns for intentional and unintentional entry into the condition. For example, when the control room boundary is opened for other than entry through doors, the proposed bases require that, in addition to other necessary measures, a dedicated individual be stationed in the area keeping continuous contact with the control room to rapidly restore the boundary.

Additionally, the proposed change is considered acceptable because of the low probability of an event requiring an intact control room boundary occurring during the 24-hour action completion time associated with Condition "B."

Based on the low probability of an event occurring in this time and the availability of compensatory measures consistent with GDC 19 to minimize the consequences during an event, the proposed change is considered acceptable and is in conformance with TSTF-287.

3.2 Auxiliary Building Filtered Ventilation Exhaust System

The proposed changes to TS 3.7.12 are:

1. A Note has been added to LCO 3.7.12 for the ABFVES to allow the ECCS pump room pressure boundary to be opened intermittently under administrative controls. Corresponding Bases have been added which establish the administrative controls that are required to minimize the consequences of the open boundary.
2. A new Condition B is added to LCO 3.7.12 to specify that 24 hours are allowed to restore an inoperable ECCS pump room pressure boundary to operable status. All other Conditions have been administratively re-labeled to support this change. Corresponding Bases are added to support this change.

The LCO is modified by a Note allowing the ECCS pump room pressure boundary to be opened intermittently under administrative controls. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for ECCS pump room boundary isolation is indicated.

If the ECCS pump room pressure boundary is inoperable in MODES 1, 2, 3, and 4 such that the ABFVES trains cannot establish or maintain the required pressure, action must be taken to restore ECCS pump room pressure boundary to an OPERABLE status within 24 hours.

The proposed changes would allow 24 hours (during Modes 1, 2, 3, and 4) to restore the capability to maintain ECCS pump room boundary pressure before requiring the unit to perform an orderly shutdown and also allows intermittent opening of the ECCS pump room pressure boundary under administrative controls. During the period that the ECCS pump room pressure boundary is inoperable, appropriate compensatory measures consistent with the intent of 10 CFR Part 50, Appendix A, GDC 19, 60 and 64 and 10 CFR Part 100 will be utilized to protect the plant personnel from potential hazards such as radioactive contamination, toxic chemicals, smoke, temperature and relative humidity and to ensure physical security. These preplanned

measures will be available to address these concerns for intentional and unintentional entry into the condition. For example, when the ECCS pump room pressure boundary is opened for other than entry through doors, the proposed Bases require, in addition to other necessary measures, that a dedicated individual be stationed in the area keeping continuous contact with the control room to rapidly restore the boundary.

Additionally, the proposed change is considered acceptable because of the low probability of an event requiring an intact ECCS pump room pressure boundary occurring during the 24-hour action completion time associated with Condition "B."

Based on the low probability of an event occurring in this time and the availability of compensatory measures consistent with GDC 19, 60, 64 and 10 CFR Part 100 to minimize the consequences during an event, the proposed change is considered acceptable and is in conformance with TSTF-287.

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 (65 FR 34744). 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.

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Catawba Nuclear Station

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