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June 3, 2003

U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001
ATTENTION: Document Control Desk

SUBJECT: Duke Energy Corporation
McGuire Nuclear Station Units 1 and 2
Docket Nos. 50-369, 50-370

License Amendment Request for:
McGuire Technical Specifications
3.7.11, Auxiliary Building Filtered
Ventilation Exhaust System

Pursuant to 10CFR50.90, Duke Energy Corporation is submitting a license amendment request (LAR) for the McGuire Nuclear Station Facility Operating Licenses and Technical Specifications (TS). This LAR addresses degraded pressure boundaries for the Auxiliary Building Filtered Ventilation Exhaust System (ABFVES) and is applicable to McGuire TS 3.7.11. The change proposed in this LAR adds a Note to LCO 3.7.11 which will allow the Auxiliary Building pressure boundary to be opened intermittently under administrative control.

The change being proposed to McGuire TS 3.7.11 is consistent with an NRC-approved Industry Technical Specifications Task Force (TSTF) standard TS traveler.¹ This proposed change to McGuire TS 3.7.11 has been previously requested^{2,3} and approved⁴ for Catawba Nuclear Station.

¹ TSTF-287, Rev. 5, "Ventilation System Envelope Allowed Outage Time"

² M. S. Tuckman, Duke Energy Corporation, Letter to the NRC Dated April 18, 2000, SUBJECT: License Amendment Request for Technical Specification 3.7.10, Control Room Area Ventilation System; and Technical Specification 3.7.12, Auxiliary Building Filtered Ventilation Exhaust System

³ M. S. Tuckman, Duke Energy Corporation, Letter to the NRC Dated July 27, 2000, SUBJECT: Supplement to License Amendment Request for Technical Specification 3.7.10, Control Room Area Ventilation System; and Technical Specification 3.7.12, Auxiliary Building Filtered Ventilation Exhaust System

⁴ NRC Letter and Safety Evaluation Dated September 5, 2000, SUBJECT: Catawba Nuclear Station, Units 1 and 2, RE: Issuance of Amendments Nos. 187/180 (TACS MA8888 and MA8889)

ADD1

The contents of this amendment package are as follows:

- Attachment 1 provides a marked copy of the existing TS for McGuire Units 1 and 2. The marked copy shows the proposed changes.
- Attachment 2 provides the reprinted Technical Specifications pages for McGuire Units 1 and 2.
- Attachment 3 provides a Description of the Proposed Changes and Technical Justification.
- Pursuant to 10CFR50.92, Attachment 4 documents Duke's determination that this LAR contains No Significant Hazards Considerations.
- Pursuant to 10CFR51.22(c)(9), Attachment 5 provides the basis for the categorical exclusion from performing an Environmental Assessment/Impact Statement.

Implementation of this LAR in the Facility Operating Licenses and Technical Specifications will not impact the McGuire Updated Final Safety Analysis Report. In accordance with Duke administrative procedures and the Quality Assurance Program Topical Report, the changes contained in this LAR have been reviewed and approved by the McGuire Plant Operations Review Committee. This LAR has also been reviewed and approved by the Duke Nuclear Safety Review Board. Pursuant to 10CFR50.91, a copy of this LAR is being sent to the designated official of the State of North Carolina.

Implementation of the changes proposed in this LAR at McGuire will provide additional operational flexibility without a significant increase in risk. Duke Energy Corporation is requesting NRC review and approval of this LAR by June 1, 2004. It has been determined that the NRC's standard 30-day implementation grace period will be adequate for this LAR. There are no additional regulatory commitments contained in this submittal package.

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Inquiries on this matter should be directed to J. S. Warren
at 704-382-4986.

Very truly yours,



D. M. Jamil

xc w/Attachments:

~~L. A. Reyes, Regional Administrator~~

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D. M. Jamil, affirms that he is the person who subscribed his name to the foregoing statement, and that all the matters and facts set forth herein are true and correct to the best of his knowledge.



D. M. Jamil, Site Vice President

Subscribed and sworn to me: June 3, 2003
Date

Deborah S. Rome, Notary Public
Deborah S. Rome

My commission expires: December 19, 2004
Date



SEAL

Attachment 1

McGuire Units 1 and 2 Technical Specifications

Marked Copy

3.7 PLANT SYSTEMS

3.7.11 Auxiliary Building Filtered Ventilation Exhaust System (ABFVES)

LCO 3.7.11 Two ABFVES shall be OPERABLE.

← **INSERT 1**

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

ACTIONS

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|--|-----------------|
| A. One ABFVES inoperable. | A.1 Restore ABFVES to OPERABLE status. | 7 days |
| B. Two ABFVES inoperable. | B.1 Restore one ABFVES to OPERABLE status. | 24 hours |
| C. Required Action and associated Completion Time not met. | C.1 Be in MODE 3. | 6 hours |
| | <u>AND</u> C.2 Be in MODE 5. | 36 hours |

INSERT 1

-----NOTE-----

The Auxiliary Building pressure boundary may be opened
intermittently under administrative controls.

BASES

LCO (continued)

Use of any other two fan combination requires surveillance testing in that configuration prior to taking credit for that combination.

- b. HEPA filter 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.



The ABFVES 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 ABFVES component becomes inoperable, or normal or emergency power to a ABFVES 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.

APPLICABILITY

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

Both units 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 unit's ABFVES inoperable, action must be taken to restore OPERABLE status within 7 days. During this time, the remaining OPERABLE unit's system is adequate to perform the ABFVES function. One unit's system of ABFVES may be made inoperable from, but not limited to, the filter assembly, fans, flowpath, or the ability to maintain the required negative 0.125 inches of water gauge (wg) for the ECCS pump rooms relative to atmospheric pressure.

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

INSERT 2

The LCO is modified by a NOTE allowing the Auxiliary Building 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 Auxiliary Building pressure boundary isolation is indicated.

Attachment 2

McGuire Units 1 and 2 Technical Specifications

Reprinted Pages

Remove Page

3.7.11-1

B3.7.11-1

thru

B3.7.11-5

Insert Page

3.7.11-1

B3.7.11-1

thru

B3.7.11-6

3.7 PLANT SYSTEMS

3.7.11 Auxiliary Building Filtered Ventilation Exhaust System (ABFVES)

LCO 3.7.11 Two ABFVES shall be OPERABLE.

-----NOTE-----

The Auxiliary Building 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 inoperable. | A.1 Restore ABFVES to OPERABLE status. | 7 days |
| B. Two ABFVES inoperable. | B.1 Restore one ABFVES to OPERABLE status. | 24 hours |
| C. Required Action and associated Completion Time not met. | C.1 Be in MODE 3. | 6 hours |
| | <u>AND</u> C.2 Be in MODE 5. | 36 hours |

B 3.7 PLANT SYSTEMS

B 3.7.11 Auxiliary Building Filtered Ventilation Exhaust System (ABFVES)

BASES

BACKGROUND

The ABFVES filters air from the area of the active ECCS components during the recirculation phase of a loss of coolant accident (LOCA). The ABFVES, in conjunction with other normally operating systems, also provides environmental control of temperature and humidity in the ECCS pump room area and the auxiliary building.

The ABFVES consists of a system, made up of prefilter, a high efficiency particulate air (HEPA) filter, a carbon adsorber section for removal of gaseous activity (principally iodines), and two fans. Ductwork, valves or dampers, and instrumentation also form part of the system. The system initiates filtered ventilation of the pump room following receipt of a safety injection (SI) signal.

The ABFVE systems are designed to be shared between units. Each unit's system is constructed with two 50% capacity fans providing flow to a 100% capacity filter package. With this design, both Units 1's and Units 2's ABFVE systems are required to be OPERABLE with either unit in MODES 1, 2, 3, or 4.

The ABFVES is a standby system, aligned to bypass the system HEPA filters and carbon adsorbers. During emergency operations, the ABFVES dampers are realigned to begin filtration. Upon receipt of the actuating Engineered Safety Feature Actuation System signal(s), air is pulled from the mechanical penetration area and the ECCS pump rooms, and the stream of ventilation air discharges through the system filters. The prefilters remove any large particles in the air, and any entrained water droplets present, to prevent excessive loading of the HEPA filters and carbon adsorbers.

The ABFVES was not initially designed as a safety related system. However, during initial plant licensing, the ABFVES was re-classified as an engineered safety feature (ESF) atmosphere cleanup system and partially upgraded to meet most of the recommendations of Regulatory Guide 1.52. A comparison of the current ABFVES design to Regulatory Guide 1.52 (Ref. 6) is presented in UFSAR Table 9-38 (Ref. 8) and is discussed in UFSAR Section 9.4 (Ref. 1).

BASES

BACKGROUND (Continued)

The ABFVES is discussed in the UFSAR, Sections 9.4, 12.2, and 15.6.5 (Refs. 1, 2, and 3, respectively) since it may be used for normal, as well as post accident, atmospheric cleanup functions.

**APPLICABLE
SAFETY ANALYSES**

The design basis of the ABFVES is established by the large break LOCA. The system evaluation assumes a passive failure of the ECCS outside containment, such as an SI pump seal failure, during the recirculation mode. In such a case, the system limits radioactive release to within the 10 CFR 100 (Ref. 4) limits, or the NRC staff approved licensing basis (e.g., a specified fraction of Reference 5 limits). The analysis of the effects and consequences of a large break LOCA is presented in Reference 3. The ABFVES also actuates following a small break LOCA, in those cases where the ECCS goes into the recirculation mode of long term cooling, to clean up releases of smaller leaks, such as from valve stem packing.

Two types of system failures are considered in the accident analysis: complete loss of function, and excessive LEAKAGE. Either type of failure may result in a lower efficiency of removal for any gaseous and particulate activity released to the ECCS pump rooms following a LOCA.

The ABFVES satisfies Criterion 3 of 10 CFR 50.36 (Ref. 5).

LCO

The ABFVES is required to be OPERABLE with either unit in MODES 1, 2, 3, or 4. Total system failure could result in the atmospheric release from the ECCS pump room exceeding 10 CFR 100 limits in the event of a Design Basis Accident (DBA).

ABFVES is considered OPERABLE when the individual components necessary to maintain the ECCS pump room filtration are OPERABLE in both units systems.

An ABFVES is considered OPERABLE when its associated:

a. Fans in configuration as described below are OPERABLE:

Both fans OPERABLE in any one set of fans listed below:

1A and 1B, or
2A and 2B, or
1A and 2A, or
1B and 2B

BASES

LCO (continued)

Use of any other two fan combination requires surveillance testing in that configuration prior to taking credit for that combination.

- b. HEPA filter 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.

The ABFVES 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 ABFVES component becomes inoperable, or normal or emergency power to a ABFVES 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 Auxiliary Building 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 Auxiliary Building pressure boundary isolation is indicated.

APPLICABILITY

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

Both units 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 unit's ABFVES inoperable, action must be taken to restore OPERABLE status within 7 days. During this time, the

BASES

ACTIONS (continued)

remaining OPERABLE unit's system is adequate to perform the ABFVES function. One unit's system of ABFVES may be made inoperable from, but not limited to, the filter assembly, fans, flowpath, or the ability to maintain the required negative 0.125 inches of water gauge (wg) for the ECCS pump rooms relative to atmospheric pressure.

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 unit's system to provide the required capability.

B.1

With both unit's ABFVE systems inoperable, action must be taken to restore to OPERABLE status one unit's ABFVE system within 24 hours. The 24 hour Completion Time is based on an adequate period of time to determine the cause of the inoperability and affect repairs without the need of shutting down both units. In addition, the probability of a DBA is low for this short period of time.

C.1 and C.2

If the ABFVES 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 operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

**SURVEILLANCE
REQUIREMENTS**

SR 3.7.11.1

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. Systems without heaters need only be operated from the control room for ≥ 15 minutes with flow through the HEPA filters and charcoal

BASES

SURVEILLANCE REQUIREMENTS (continued)

adsorbers to demonstrate the function of the system. The 31 day Frequency is based on the known reliability of equipment.

SR 3.7.11.2

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 4. The VFTP includes testing HEPA filter performance, carbon adsorbers efficiency, minimum system flow rate, and the physical properties of the carbon (general use and following specific operations).

Specific test Frequencies and additional information are discussed in detail in the VFTP.

SR 3.7.11.3

This SR verifies that ABFVES 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 Regulatory Guide 1.52 (Ref. 6).

SR 3.7.11.4

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 area, with respect to adjacent areas, to prevent unfiltered LEAKAGE. The ABFVES is designed to maintain a ≤ -0.125 inches water gauge relative to atmospheric pressure. This SR is required to be performed for each fan combination (1A and 1B, 2A and 2B, 1A and 2A, 1B and 2B) described in the LCO Bases. The Frequency of 18 months is consistent with the guidance provided in NUREG-0800, Section 6.5.1 (Ref. 7).

An 18 month Frequency on a STAGGERED TEST BASIS is consistent with that specified in Reference 6.

BASES

- REFERENCES**
1. UFSAR, Section 9.4.
 2. UFSAR, Section 12.2.
 3. UFSAR, Section 15.6.5.
 4. 10 CFR 100.11.
 5. 10 CFR 50.36, Technical Specifications, (c)(2)(ii).
 6. Regulatory Guide 1.52 (Rev. 2).
 7. NUREG-0800, Section 6.5.1, Rev. 2, July 1981.
 8. UFSAR, Table 9-38.

Attachment 3

Description of Proposed Changes and Technical Justification

Description of Proposed Changes

The proposed change adds a LCO Note to TS 3.7.11, Auxiliary Building Filtered Ventilation Exhaust System (ABFVES). The note will allow the Auxiliary Building pressure boundary to be opened intermittently under administrative controls. Corresponding Bases changes are also being made and these establish the administrative controls that are required to minimize the consequences of the open pressure boundary.

Technical Justification

Background

McGuire Surveillance Requirement 3.7.11.4 tests the integrity of the Auxiliary Building pressure boundary and requires a negative pressure limit to be satisfied for each fan combination described in the LCO Bases. While other surveillance requirements in the same specification test the operability and function of the ventilation trains, the pressure test ensures that the boundary's leak tightness is adequate to meet design assumptions. There are no provisions in current TS 3.7.11 to address situations where the acceptance criteria of the ventilation boundary pressure test could not be met due to an intermittent opening of the pressure boundary.

Discussion

Currently there are no LCO or Bases notes in McGuire TS 3.7.11 that address the opening of the Auxiliary Building pressure boundary intermittently under administrative controls. The proposed TS change would add a note to LCO 3.7.11 and its Bases that allows intermittent opening of the pressure boundary under administrative controls. The proposed administrative controls establish appropriate compensatory measures to minimize the consequences of an event during this time. For example, when the pressure boundary is opened for other than normal entry through doors, the proposed Bases would require that a dedicated individual be stationed in the area. This individual must be in continuous communication with the control room in order to rapidly restore the pressure boundary if needed.

Attachment 3

Description of Proposed Changes and Technical Justification

Precedent Licensing Actions

The change being proposed to McGuire TS 3.7.11 is consistent with an NRC-approved industry Technical Specifications Task Force (TSTF) standard TS traveler.¹ Additionally, the change being proposed herein to McGuire TS 3.7.11 is similar to changes previously approved by the NRC for McGuire TS 3.7.9, Control Room Area Ventilation System (CRAVS).^{2,3} It is also similar to changes previously approved for Catawba Nuclear Station TS 3.7.10, Control Room Area Ventilation System (CRAVS)⁴ and consistent with changes previously approved for Catawba TS 3.7.12, Auxiliary Building Filtered Ventilation Exhaust System (ABFVES).⁴

Conclusion

The proposed changes to McGuire TS 3.7.11 will permit the opening of a pressure boundary on an intermittent basis while under administrative controls. These changes are consistent with a nuclear industry initiative that has been approved by the NRC and previous NRC-approved license amendment requests that have been implemented at McGuire and Catawba.

¹ TSTF-287, Rev. 5, "Ventilation System Envelope Allowed Outage Time"

² NRC Letter and Safety Evaluation, F. Rinaldi (USNRC) to H. B. Barron (Duke), Dated June 11, 1999, SUBJECT: "Emergency Technical Specifications Change, RE: McGuire Nuclear Station, Units 1 and 2, Amendments Nos. 185/167 (TACS MA5671 and MA5672)

³ Letter and Safety Evaluation, F. Rinaldi (USNRC), to H. B. Barron (Duke). Dated September 22, 1999, SUBJECT: "McGuire Nuclear Station, Units 1 and 2, RE: Issuance of Amendments Nos. 187/168 (TAC Nos. MA6428 and MA6429)"

⁴ NRC Letter and Safety Evaluation Dated September 5, 2000, SUBJECT: Catawba Nuclear Station, Units 1 and 2, RE: Issuance of Amendments Nos. 187/180 (TACS MA8888 and MA8889)

Attachment 4

No Significant Hazards Consideration

In accordance with the criteria set forth in 10CFR50.91 and 50.92, Duke Energy Corporation has evaluated this license amendment request and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

No, the Auxiliary Building Filtered Ventilation Exhaust System (ABFVES) is not assumed to be an initiator of any analyzed accident. Therefore, the proposed change contained in this license amendment request has no significant impact on the probability of occurrence of any previously analyzed accident.

The ABFVES provides a means of filtering air from the area of the active emergency core cooling system (ECCS) components, thereby providing environmental control for temperature and humidity in the ECCS pump room area and the Auxiliary Building. During emergency operations, the ABFVES exhausts air from the mechanical penetration area and the ECCS pump room area and discharges it through the system filters. For cases where the Auxiliary Building pressure boundary is opened intermittently under administrative controls, appropriate compensatory measures would be required by the proposed Technical Specification to ensure the pressure boundary can be rapidly restored. Based on the compensatory measures available to the plant operators and the administrative controls required to rapidly restore an opened pressure boundary, the accident consequences do not cause a significant increase in dose above the applicable General Design Criteria, Standard Review Plan, or 10CFR100 limits.

Attachment 4

No Significant Hazards Consideration

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

No, there are no changes being made to actual plant hardware which will result in any new accident causal mechanisms. Also, no changes are being made to the way in which the plant is being operated. Therefore, no new accident causal mechanisms will be generated.

3. Does this change involve a significant reduction in a margin of safety?

No, margin of safety is related to the ability of the fission product barriers to perform their design functions during and following accident conditions. These barriers include the fuel cladding, the reactor coolant system, and the containment system. The performance of these barriers will not be significantly degraded by the proposed changes. When the Auxiliary Building pressure boundary is open on an intermittent basis, as permitted by the changes proposed in this license amendment request, administrative controls would be in place to ensure that the integrity of the pressure boundary could be rapidly restored. Therefore, it is expected that the plant, and the operating personnel, would maintain the ability to mitigate design basis events, and that none of the fission product barriers would be significantly affected by this change. Therefore, the proposed change is not considered to result in a significant reduction in a margin of safety.

Conclusion

Based upon the preceding discussion, Duke Energy Corporation has concluded that this proposed license amendment does not involve a significant hazards consideration.

Attachment 5

Environmental Assessment/Impact Statement

The proposed license amendment request has been reviewed against the criteria of 10CFR51.22 for environmental considerations. The proposed amendment does not involve a significant hazards consideration (as shown in Attachment 4), nor increase the types and amounts of effluents that may be released offsite, nor increase individual or cumulative occupational radiation exposures. Therefore, the proposed amendment meets the criteria given in 10CFR51.22(c)(9) for a categorical exclusion from the requirement for performing an Environmental Assessment/Impact Statement.