



BRUCE H HAMILTON
Vice President
McGuire Nuclear Station

Duke Energy Corporation
MG01VP / 12700 Hagers Ferry Road
Huntersville, NC 28078

704-875-5333
704-875-4809 fax
bhhamilton@duke-energy.com

December 1, 2008

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555-001

Subject: Duke Energy Carolinas, LLC

McGuire Nuclear Station, Units 1 and 2
Docket Nos. 50-369 and 50-370

Amendment to Technical Specification 3.8.1, "AC Sources-Operating,"
Revised Surveillance Requirements

In accordance with the provisions of Section 50.90 of Title 10 of the Code of Federal Regulations (10CFR), Duke Energy Carolinas, LLC (Duke) is submitting a license amendment request (LAR) for the Renewed Facility Operating License (FOL) and Technical Specifications (TS) for McGuire Nuclear Station Units 1 and 2.

The proposed amendment seeks to correct a non-conservative Technical Specification Surveillance Requirement by revising McGuire TS Surveillance Requirement (SR) 3.8.1.4 to increase the minimum required amount of fuel oil for the Emergency Diesel Generators (EDG) fuel oil day tank (subsequently referred to herein as the "day tank") from 120 gallons to 39 inches of fuel oil (approximately 160 gallons) as read on the local gauge used to perform the surveillance. A corresponding change is made to the associated TS Bases document.

Attachment 1 provides Duke's evaluation of the LAR which contains a description of the proposed TS and associated Bases changes, the technical analysis, the determination that this LAR contains No Significant Hazards Considerations, and the basis for the categorical exclusion from performing an Environmental Assessment/Impact Statement.

Attachment 2 provides existing TS page for McGuire Units 1 and 2, marked-up to show the proposed changes. The associated TS Bases page affected by the proposed change is included for your information.

Reprinted (clean) TS and associated Bases pages will be provided to the NRC upon issuance of the approved amendment.

1001
WRR

Duke requests that NRC review and approval of this LAR be completed by December 1, 2009. Duke has determined that the NRC's standard 30-day implementation grace period will be sufficient to implement this LAR.

The approval of this LAR will not require revision of the McGuire UFSAR.

In accordance with Duke internal procedures and the Quality Assurance Topical Report, the proposed amendment has been reviewed and approved by the McGuire Plant Operations Review Committee and the Duke Corporate Nuclear Safety Review Board.

Pursuant to 10CFR50.91, a copy of this LAR has been forwarded to the appropriate North Carolina state official.

Please direct any questions you may have in this matter to K. L. Ashe at (704) 875-4535.

Very truly yours,

A handwritten signature in cursive script that reads "Bruce Hamilton". The signature is written in black ink and is positioned above the printed name.

B. H. Hamilton

December 1, 2008
Nuclear Regulatory Commission
Page 3

xc w/ Attachments:

L. A. Reyes
Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
Sam Nunn Atlanta Federal Center
61 Forsyth Street SW, Suite 23T85
Atlanta, GA 30303

J. B. Brady
NRC Senior Resident Inspector
McGuire Nuclear Station

J. F. Stang, Jr. (addressee only)
NRC Senior Project Manager (MNS and CNS)
U.S. Nuclear Regulatory Commission
Mail Stop O-8 G9A
Washington, DC 20555-0001

B. O. Hall, Section Chief
Division of Radiation Protection
1645 Mail Service Center
Raleigh, NC 27699-1645

Bruce H. Hamilton 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.

Bruce Hamilton

Bruce H. Hamilton, Vice President, McGuire Nuclear Station

Subscribed and sworn to me: December 1, 2008
Date

Jori C. Dickey _____, Notary Public

My commission expires: July 1, 2012
Date



ATTACHMENT 1
EVALUATION OF PROPOSED AMENDMENT

- 1.0 SUMMARY DESCRIPTION
- 2.0 DETAILED DESCRIPTION
- 3.0 TECHNICAL EVALUATION
- 4.0 REGULATORY EVALUATION
 - 4.1 APPLICABLE REGULATORY REQUIREMENTS/CRITERIA
 - 4.2 SIGNIFICANT HAZARDS CONSIDERATION
 - 4.3 CONCLUSIONS
- 5.0 ENVIRONMENTAL CONSIDERATION

1.0 SUMMARY DESCRIPTION

Pursuant to 10CFR50.90, Duke Energy Carolinas, LLC (Duke) is requesting a license amendment request (LAR) for the McGuire Nuclear Station Units 1 and 2 Renewed Facility Operating Licenses (FOL) and Technical Specifications (TS). The proposed license amendment revises the McGuire Nuclear Station (MNS) Unit 1 and Unit 2 Technical Specification (TS) 3.8.1, "Electrical Power Systems, AC Sources-Operating," Surveillance Requirement (SR) 3.8.1.4.

The proposed amendment seeks to correct a non-conservative Technical Specification Surveillance Requirement by revising MNS TS Surveillance Requirement (SR) 3.8.1.4 to increase the minimum required amount of fuel oil for the Emergency Diesel Generators (EDG) fuel oil day tank (subsequently referred to herein as the "day tank") from 120 gallons to 39 inches of fuel oil (as read on the local gauge used to perform the surveillance), which corresponds to approximately 160 gallons. A corresponding change is made to the associated TS Bases document.

2.0 DETAILED DESCRIPTION

The McGuire onsite electrical power system consists of all sources of electrical power and their associated distribution systems in each of the two generating units. These sources are the main generator, two EDGs and the batteries.

Each unit has two redundant and independent 4160 Volt Essential Auxiliary Power Systems which normally receive power from the normal power distribution system. After verification of a loss of offsite power (LOOP) or a sustained degraded offsite power condition, the normal and alternate incoming feeder circuit breakers automatically trip. During a LOOP condition, power to each of the redundant 4160 Volt Essential Auxiliary Power Systems is provided by a completely independent diesel-electric generating unit. Each of the 4160 Volt Essential Auxiliary Power System (1E) electrical buses is totally capable of fulfilling their design function independently. There are no overlapping electrical loads shared between the 1E buses; a loss of one EDG does not increase the demand on any other EDG.

The EDG Fuel Oil System maintains a minimum supply of fuel oil onsite for four (4) EDGs, 2 engines per Unit. Each EDG has an associated fuel oil storage tank and day tank. Fuel oil is transferred from the fuel oil storage tank by the fuel oil transfer pump through the fuel oil filter to the day tank.

TS SR 3.8.1.4 currently requires that the EDG day tank contain at least 120 gallons of fuel oil, intended to be adequate for approximately 30 minutes of EDG operation at 100% load which allows for an orderly shutdown of the engine if make-up to the day tank becomes unavailable. This 120 gallon minimum day tank volume has been determined to be inadequate.

The proposed amendment seeks to correct this non-conservative Technical Specification Surveillance Requirement by revising SR 3.8.1.4 to increase the minimum required amount of fuel oil in the day tank to approximately 160 gallons. The proposed amendment further seeks to revise the manner in which this minimal amount of fuel oil is expressed by changing (160) gallons to 39 inches of fuel oil as read on the local gauge used to perform the surveillance.

3.0 TECHNICAL EVALUATION

The day tank minimum volume of 120 gallons, as currently specified in TS SR 3.8.1.4, has been determined to be inadequate to provide approximately 30 minutes of EDG operation at full load which allows for an orderly shutdown of the engine should fuel replenishment to the day tank become unavailable. This matter was evaluated under Duke's corrective action program. As a result, McGuire has been operating under an Operable but Degraded/Non-conforming (OBDN) condition with more conservative administrative limits established for the day tank volume. Although a non-conservative Technical Specification Surveillance Requirement exists, the low level alarm (40 inches; approximately 165 gallons) and the automatic fuel transfer pump operation (43 inches; approximately 178 gallons) would have occurred prior to the day tank level descending below the 30 minute supply. Plant operators would have been made aware of a drop in day tank level and an orderly shutdown of the EDG would have begun as described in the Design Bases of the fuel system. Thus, compliance with the current TS and the licensing basis has been maintained.

The apparent cause of this non-conservatism was a lack of communication concerning the difference in requirements between McGuire Technical Specification Surveillance Requirement 3.8.1.4 and the supply of fuel calculated to meet the McGuire design basis of 30 minutes run time for the EDG. Since the discovery of this discrepancy, the Operations procedures have been revised and currently require that 39 inches of fuel oil be maintained in the EDG day tanks, which provides the mass of fuel oil required for approximately 30 minutes of EDG operation at 100% load and an additional allowance for instrument uncertainty and potential vortex formation.

Calculations for EDG fuel oil usage conservatively assumed the lowest specific gravity allowed by the Diesel Generator Fuel Oil Testing Program. Thus, these calculations account for the varying heat content/consumption based on the worst case fuel oil quality allowed by Technical Specification.

Although the proposed change deviates from NUREG 1431, SR 3.8.1.4 (i.e., expression of fuel oil quantity as inches vs gallons), it is more appropriate to state the fuel oil requirement in "inches" of indicated level since this is consistent with the configuration of the instrumentation installed on the EDG day tank.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria:

As required by General Design Criteria (GDC) 17, an onsite electric power system shall be provided to permit functioning of structures, systems and components important to safety. The emergency diesel generators (EDG) satisfy the requirements of GDC 17. The Fuel Oil System supplies fuel oil to the EDGs. The day tank supplies sufficient capacity to successfully start the EDG and allow for the orderly shutdown of the EDG in the event of a loss of fuel from the fuel oil storage tank or a fuel oil transfer pump problem. The proposed change to SR 3.8.1.4 is conservative in nature and has been determined to have no adverse impact on the EDGs ability to fulfill their design basis function as required by 10 CFR 50, Appendix A, GDC-17.

4.2 Significant Hazards Consideration:

The proposed amendment seeks to correct a non-conservative Technical Specification Surveillance Requirement by revising MNS TS Surveillance Requirement (SR) 3.8.1.4 to increase the minimum required amount of fuel oil for the Emergency Diesel Generators (EDG) fuel oil day tank from 120 gallons to 39 inches of fuel oil (as read on the local gauge used to perform the surveillance), which corresponds to approximately 160 gallons. A corresponding change is made to the associated TS Bases document.

Duke Energy Carolinas, LLC (Duke) has concluded that operation of McGuire Nuclear Station (MNS) Units 1 & 2, in accordance with the proposed changes to the Technical Specifications (TS) does not involve a significant hazards consideration. Duke's conclusion is based on its evaluation, in accordance with 10 CFR 50.91(a)(1), of the three standards set forth in 10 CFR 50.92(c) as discussed below:

- A. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

Implementation of the proposed amendment does not significantly increase the probability or the consequences of an accident previously evaluated. The Emergency Diesel Generators (EDGs) and their associated emergency buses function as accident mitigators. The proposed changes do not involve a change in the operational limits or the design of the electrical power systems (particularly the emergency power systems) or change the function or operation of plant equipment or affect the response of that equipment when called upon to operate.

The proposed change to TS SR 3.8.1.4 confirms the minimum supply of fuel oil in the emergency diesel generators (EDG) fuel oil day tank. The minimum value for the affected parameter is being increased in the conservative direction and further ensures the EDGs ability to fulfill their safety related function.

Thus, based on the above, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

- B. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed changes do not involve a change in the operational limits or the design capabilities of the emergency electrical power systems. The proposed changes do not change the function or operation of plant equipment or introduce any new failure mechanisms. The evaluation that supports this LAR included a review of the EDG fuel oil system to which this parameter applies. The proposed changes do not introduce any new or different types of failure mechanisms; plant equipment will continue to respond as designed and analyzed.

- C. Does the proposed amendment involve a significant reduction in the margin of safety?

Response: No.

Margin of safety is related to the confidence in the ability of the fission product barriers to perform their design functions during and following an accident situation. These barriers include the fuel cladding, the reactor coolant system, and the containment system. The performance of the fuel cladding, the reactor coolant system and the containment system will not be adversely impacted by the proposed changes.

Thus, it is concluded that the proposed TS and TS Bases changes do not involve a significant reduction in the margin of safety.

4.3 Conclusions:

The proposed amendment seeks to correct a non-conservative Technical Specification Surveillance Requirement by revising MNS TS Surveillance Requirement (SR) 3.8.1.4 to increase the minimum required amount of fuel oil for the Emergency Diesel Generators (EDG) fuel oil day tank from 120 gallons to 39 inches of fuel oil (corresponding to approximately 160 gallons).

The proposed changes do not involve a change in the operational limits or the design capabilities of the emergency electrical power systems. The proposed changes do not change the function or operation of plant equipment or introduce any new failure mechanisms. The ability to successfully start and allow for the orderly shutdown of the EDG in the event of a loss of fuel from the fuel oil storage tank or a fuel oil transfer pump problem will be improved by the proposed amendment.

5.0 ENVIRONMENTAL CONSIDERATION

The proposed change does not involve a significant hazards consideration, a significant change in the types of or significant increase in the amounts of any effluents that may be released offsite, or a significant increase in individual or cumulative occupational radiation exposure. Therefore, the proposed change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9).

Pursuant to 10 CFR 51.22(b), an environmental assessment of the proposed change is not required.

ATTACHMENT 2

**MARKED PAGES OF AFFECTED McGUIRE TECHNICAL SPECIFICATIONS
AND ASSOCIATED BASES**

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.3 -----NOTES-----</p> <ol style="list-style-type: none"> 1. DG loadings may include gradual loading as recommended by the manufacturer. 2. Momentary transients outside the load range do not invalidate this test. 3. This Surveillance shall be conducted on only one DG at a time. 4. This SR shall be preceded by and immediately follow without shutdown a successful performance of SR 3.8.1.2 or SR 3.8.1.7. <p>-----</p> <p>Verify each DG is synchronized and loaded and operates for ≥ 60 minutes at a load ≥ 3600 kW and ≤ 4000 kW.</p>	31 days
<p>SR 3.8.1.4 Verify each day tank contains ≥ 420 gal <u>39 inches</u> of fuel oil.</p>	31 days
<p>SR 3.8.1.5 Check for and remove accumulated water from each day tank.</p>	31 days
<p>SR 3.8.1.6 Verify the fuel oil transfer system operates to automatically transfer fuel oil from storage tank to the day tank.</p>	31 days

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.1.4

This SR provides verification that the level of fuel oil in the day tank is at or above the level at which fuel oil is automatically added. The level is expressed as an equivalent volume in gallons, and is adequate for approximately 30 minutes of DG operation at full load which allows for an orderly shutdown of the DG should fuel replenishment to the day tank become unavailable.

The 31 day Frequency is adequate to assure that a sufficient supply of fuel oil is available, since low level alarms are provided and facility operators would be aware of any large uses of fuel oil during this period.

SR 3.8.1.5

Microbiological fouling is a major cause of fuel oil degradation. There are numerous bacteria that can grow in fuel oil and cause fouling, but all must have a water environment in order to survive. Removal of water from the fuel oil day tanks once every 31 days eliminates the necessary environment for bacterial survival. This is the most effective means of controlling microbiological fouling. In addition, it eliminates the potential for water entrainment in the fuel oil during DG operation. Water may come from any of several sources, including condensation, ground water, rain water, contaminated fuel oil, and breakdown of the fuel oil by bacteria. Frequent checking for and removal of accumulated water minimizes fouling and provides data regarding the watertight integrity of the fuel oil system. The Surveillance Frequencies are established by Regulatory Guide 1.137 (Ref. 11). This SR is for preventative maintenance. The presence of water does not necessarily represent failure of this SR, provided the accumulated water is removed during the performance of this Surveillance.

SR 3.8.1.6

This Surveillance demonstrates that each required fuel oil transfer pump operates and transfers fuel oil from its associated storage tank to its associated day tank. This is required to support continuous operation of standby power sources. This Surveillance provides assurance that the fuel oil transfer pump is OPERABLE, the fuel oil piping system is intact, the fuel delivery piping is not obstructed, and the controls and control systems for automatic fuel transfer systems are OPERABLE.

The design of fuel transfer systems is such that pumps operate automatically or may be started manually in order to maintain an