



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

September 29, 2012

Mr. Steven D. Capps
Vice President
McGuire Nuclear Station
Duke Energy Carolinas, LLC
12700 Hagers Ferry Road
Huntersville, NC 28078

SUBJECT: MCGUIRE NUCLEAR STATION, UNITS 1 AND 2, ISSUANCE OF
AMENDMENTS REGARDING CHANGES TO DIESEL GENERATOR STARTING
AIR PRESSURE LIMITS (TAC NOS. ME7275 AND ME7276)

Dear Mr. Capps:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 267 to Renewed Facility Operating License NPF-9 and Amendment No. 247 to Renewed Facility Operating License NPF-17 for the McGuire Nuclear Station, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated September 26, 2011, as supplemented by letter dated April 16, 2012.

The amendments revise the TSs to incorporate aspects of NUREG-1431, "Standard Technical Specifications – Westinghouse [Electric Company] Plants," [Standard Technical Specification] STS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," Condition E, regarding Diesel Generator starting air receiver pressure limits.

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.

S. Capps

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If you have any questions, please call me at 301-415-1119.

Sincerely,

A handwritten signature in black ink that reads "Jon Thompson". The signature is written in a cursive style with a large, prominent "J" and "T".

Jon Thompson, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-369 and 50-370

Enclosures:

1. Amendment No. 267 to NPF-9
2. Amendment No. 247 to NPF-17
3. Safety Evaluation

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

DUKE ENERGY CAROLINAS, LLC

DOCKET NO. 50-369

MCGUIRE NUCLEAR STATION, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 267
Renewed License No. NPF-9

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the McGuire Nuclear Station, Unit 1 (the facility), Renewed Facility Operating License No. NPF-9, filed by the Duke Energy Carolinas, LLC (licensee), dated September 26, 2011, as supplemented April 16, 2012, 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 Renewed Facility Operating License No. NPF-9 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 267, are hereby incorporated into this renewed operating license. The licensee 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



Robert J. Pascarelli, Chief
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to License No. NPF-9
and the Technical Specifications

Date of Issuance: September 28, 2012



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

DUKE ENERGY CAROLINAS, LLC

DOCKET NO. 50-370

MCGUIRE NUCLEAR STATION, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 247
Renewed License No. NPF-17

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the McGuire Nuclear Station, Unit 2 (the facility), Renewed Facility Operating License No. NPF-17, filed by the Duke Energy Carolinas, LLC (the licensee), dated September 26, 2011, as supplemented April 16, 2012, 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 Renewed Facility Operating License No. NPF-17 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 247, are hereby incorporated into this renewed operating license. The licensee 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



Robert J. Pascarelli, Chief
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to License No. NPF-17
and the Technical Specifications

Date of Issuance: September 28, 2012

ATTACHMENT TO LICENSE AMENDMENT NO. 267
RENEWED FACILITY OPERATING LICENSE NO. NPF-9
DOCKET NO. 50-369
AND
LICENSE AMENDMENT NO. 247
RENEWED FACILITY OPERATING LICENSE NO. NPF-17
DOCKET NO. 50-370

Replace the following pages of the Renewed Facility Operating Licenses and the Appendix A Technical Specifications (TSs) with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

Insert

License Pages
NPF-9, page 3
NPF-17, page 3

License Pages
NPF-9, page 3
NPF-17, page 3

TS Pages
3.8.3-2

TS Pages
3.8.3-2

- (4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components;
 - (5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproducts and special nuclear materials as may be produced by the operation of McGuire Nuclear Station, Units 1 and 2, and;
 - (6) Pursuant to the Act and 10 CFR Parts 30 and 40, to receive, possess and process for release or transfer such byproduct material as may be produced by the Duke Training and Technology Center.
- C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
- (1) Maximum Power Level
The licensee is authorized to operate the facility at a reactor core full steady state power level of 3411 megawatts thermal (100%).
 - (2) Technical Specifications
The Technical Specifications contained in Appendix A, as revised through Amendment No. 267 are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.
 - (3) Updated Final Safety Analysis Report
The Updated Final Safety Analysis Report supplement submitted pursuant to 10 CFR 54.21(d), as revised on December 16, 2002, describes certain future activities to be completed before the period of extended operation. Duke shall complete these activities no later than June 12, 2021, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

The Updated Final Safety Analysis Report supplement as revised on December 16, 2002, described above, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71(e)(4), following issuance of this renewed operating license. Until that update is complete, Duke may make changes to the programs described in such supplement without prior Commission approval, provided that Duke evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

- (4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components;
- (5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproducts and special nuclear materials as may be produced by the operation of McGuire Nuclear Station, Units 1 and 2; and,
- (6) Pursuant to the Act and 10 CFR Part 30 and 40, to receive, possess and process for release or transfer such byproduct material as may be produced by the Duke Training and Technology Center.

C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The licensee is authorized to operate the facility at a reactor core full steady state power level of 3411 megawatts thermal (100%).

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 247 are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Updated Final Safety Analysis Report

The Updated Final Safety Analysis Report supplement submitted pursuant to 10 CFR 54.21(d), as revised on December 16, 2002, describes certain future activities to be completed before the period of extended operation. Duke shall complete these activities no later than March 3, 2023, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

The Updated Final Safety Analysis Report supplement as revised on December 16, 2002, described above, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71(e)(4), following issuance of this renewed operating license. Until that update is complete, Duke may make changes to the programs described in such supplement without prior Commission approval, provided that Duke evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59, and otherwise complies with the requirements in that section.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. -----NOTE----- A single starting air receiver may be isolated without entering Condition D. ----- One or more DGs with starting air receiver pressure < 210 psig and ≥ 125 psig.</p>	<p>D.1 Restore starting air receiver pressure to ≥ 210 psig.</p>	<p>48 hours</p>
<p>E. Required Action and associated Completion Time not met. <u>OR</u> One or more DGs diesel fuel oil or starting air subsystem not within limits for reasons other than Condition A, B, C, or D.</p>	<p>E.1 Declare associated DG inoperable.</p>	<p>Immediately</p>



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO

AMENDMENT NO. 267 TO RENEWED FACILITY OPERATING LICENSE NPF-9

AND

AMENDMENT NO. 247 TO RENEWED FACILITY OPERATING LICENSE NPF-17

DUKE ENERGY CAROLINAS, LLC

MCGUIRE NUCLEAR STATION, UNITS 1 AND 2

DOCKET NOS. 50-369 AND 50-370

1.0 INTRODUCTION

By application dated September 26, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML11277A022), as supplemented by letter dated April 16, 2012 (ADAMS Accession No. ML12128A030) Duke Energy Carolinas, LLC (Duke, the licensee), requested changes to the Technical Specifications (TSs) for the McGuire Nuclear Station, Units 1 and 2 (McGuire 1 and 2). The supplement dated April 16, 2012, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on May 29, 2012 (77 FR 31659).

The license amendment request (LAR) would revise the TSs to incorporate aspects of NUREG-1431, "Standard Technical Specifications – Westinghouse [Electric Company] Plants," [Standard Technical Specification] STS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," Condition E. LCO 3.8.3, Condition E, of NUREG-1431 describes the required actions when the Diesel Generator (DG) starting air receiver pressure is less than the minimum required pressure. Specifically, the amendments would revise McGuire 1 and 2 TS 3.8.3, Condition D, regarding the DG starting air receiver pressure limits by inserting a new Note, revising Required Action D.1, and deleting Required Action D.2.

2.0 REGULATORY EVALUATION

Section 3.1 of the McGuire 1 and 2 Updated Final Safety Analysis Report (UFSAR) discusses the design criteria for the facility structures, systems and components important to safety and how these criteria meet the General Design Criteria (GDC) described in Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants." As required by 10 CFR, Part 50, Appendix A, Criterion 17, "Electric power systems,"

(GDC 17) an onsite electric power system "... shall be provided to permit functioning of structures, systems and components important to safety. ... The onsite electric power supplies, including the batteries, and the onsite electric distribution system, shall have sufficient independence, redundancy, and testability to perform their safety functions assuming a single failure..."

The regulation at 10 CFR 50.36(c)(2)(i) describes TS limiting conditions for operation (LCOs) as follows: Limiting conditions for operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met.

3.0 TECHNICAL EVALUATION

The UFSAR provides a description of the DG Starting Air (VG) system and states that:

The Diesel Generator Starting Air System (DGSAS) for each diesel unit consists of two air compressors, two 100 cubic feet starting air tanks, two aftercoolers, and two air dryers. Each air compressor is designed to deliver 40 standard cubic feet per minute at 250 psig. The air compressor discharges through an isolation valve to the aftercoolers, driers, and starting air tanks.

The LAR revises the McGuire 1 and 2 TS 3.8.3, "Diesel Fuel Oil and Starting Air," to prevent a condition in which the starting air system could be operated outside the conditions allowed by TS. Currently, Condition D of TS 3.8.3 is entered when "One or more DGs with 1 of 2 starting air receiver pressures < [less than] 210 psig." Condition D currently specifies two required actions, D.1 and D.2. D.1 requires that the licensee "Initiate action to isolate the degraded starting air receiver." D.2 requires the licensee to "Restore both starting air receiver pressures ≥ [greater than or equal to] 210 psig."

The new TS 3.8.3, Condition D, Note would be state "A single starting air receiver may be isolated without entering Condition D." Condition D is revised to state "One or more Diesel Generators with 1 of 2 starting air receiver pressure less than 210 psig and greater than or equal to 125 psig." Revised Required Action D.1 would state "Restore starting air receiver pressure to greater than or equal to 210 psig." Required Action D.2 is no longer applicable and is deleted.

The proposed TS change involves the four onsite DGs at McGuire 1 and 2. The VG system provides a start capability for the DG engines by using compressed air to roll the engines until they start. The licensee stated that a cross tie connection exists between the VG sub-trains upstream of the VG receiver tanks. The licensee states that there are sufficient piping connections to allow for alternate means to charge the air receivers from the compressed air bottles. In a request for additional information (RAI) dated March 15, 2012 (ADAMS Accession No. ML12074A183), the NRC staff asked, among other RAI questions, for the licensee to provide a revised figure 9-143 that clearly identifies the cross connection that allows the VG system to meet the operability requirements of the DG system. The licensee provided the information requested in the RAI by letter dated April 16, 2012. This revised figure 9-143 shows a cross tie capability upstream of the air receiver tanks with valves 119/120 for McGuire 1 and valves 121/122 for McGuire 2.

The licensee states that for the McGuire 1 and 2 DG engines, upon receiving a diesel start signal, all four starting air solenoid valves open. These valves remain open until the engine reaches 40% rated speed, or until 20 seconds passes and a timer secures the starting sequence. In its RAI dated March 15, 2012, the NRC staff also asked the licensee to provide the test results showing where the air pressure is maintained in both air headers of the diesels when one air receiver is isolated. The licensee's letter dated April 16, 2012, shows that through empirical data and testing of the diesels, sufficient air pressure is maintained and five starts can be achieved without recharging the single air receiver. In the USFAR, Section 9.5.6.1 also outlines the ability of VG system to start the DGs five times consecutively with one of the two starting air receivers isolated.

In the LAR, the licensee states that in the case of manually isolating a degraded air receiver and upon receiving a diesel start signal, part of the starting air is lost to pressurizing the degraded receiver. With either starting air receiver having a pressure less than 210 psig and greater than 125 psig, Condition D applies until the degraded receiver is isolated. The licensee states that an alarm response procedure ensures this period is minimized and actions are taken to isolate the degraded receiver. With the degraded starting air receiver isolated and the remaining receiver pressure greater than or equal to 210 psig, the capacity for a minimum of five consecutive DG engine starts without recharging the air receiver exists and the DG can be considered OPERABLE while the repairs necessary to restore the degraded receiver are completed.

Based its review of the diesel starting air system configuration and the empirical and test data provided by the licensee in the LAR and the associated supplement, the NRC staff finds that the proposed changes are acceptable. The NRC staff has also determined that the proposed changes do not impact the reliability of the DGs for safe shutdown of the plant and, therefore, the licensee would continue to meet the requirements of GDC 17. The NRC staff's determination is further supported by its findings that the proposed changes are consistent with NUREG-1431 and will enable the licensee to avoid unnecessary entry into an Action Statement when one of the two air receiver tanks is removed from service.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the North 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 a requirement with respect to the installation or use of facility components 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 (77 FR 31659). 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) there is reasonable assurance that 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.

Principal Contributor: O. Hopkins, NRR

Date: September 28, 2012

S. Capps

- 2 -

If you have any questions, please call me at 301-415-1119.

Sincerely,

/RA/

Jon Thompson, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-369 and 50-370

Enclosures:

1. Amendment No. 267 to NPF-9
2. Amendment No. 247 to NPF-17
3. Safety Evaluation

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ADAMS Accession No. ML12240A196 *concurrence by email * No substantial change from the SE Input Memo

OFFICE	NRR/LPL2-1/PM	NRR/LPL2-1/LA	DSS/SBPB/BC	DE/EEEB/BC	DE/EICB/BC
NAME	JThompson	SFiguroa	GCasto*	JAndersen	JThorp*
DATE	08/29/12	08/29/12	09/11/12	09/06/12	09/06/12
OFFICE	DE/EPTB/BC	DIRS/STSB/BC	OGC NLO	NRR/LPL2-1/BC	NRR/LPL2-1/PM
NAME	AMcMurtray*	RElliott	BMizuno	RPascarelli	RMartin for JThompson
DATE	09/08/12	09/10/12	09/18/12	09/28/12	09/28/12

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