



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

November 4, 2016

Mr. Steven D. Capps  
Vice President  
McGuire Nuclear Station  
Duke Energy Carolinas, LLC  
12700 Hagers Ferry Road  
Huntersville, NC 28078-8985

SUBJECT: MCGUIRE NUCLEAR STATION, UNITS 1 AND 2: REQUEST FOR  
ADDITIONAL INFORMATION REGARDING LICENSE AMENDMENT  
REQUEST TO IMPLEMENT A RISK-INFORMED, PERFORMANCE-BASED  
FIRE PROTECTION PROGRAM (TAC NOS. MF2934 AND MF2935)

Dear Mr. Capps:

By letter dated September 29, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16278A610), Duke Energy Carolinas, LLC (Duke) provided additional information regarding its license amendment request to change its fire protection program to one based on the National Fire Protection Association (NFPA) Standard-805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2001 Edition.

The U.S. Nuclear Regulatory Commission staff is continuing its review and has determined that additional information is needed as discussed in the Enclosure.

Sincerely,

A handwritten signature in cursive script that reads "Bob Martin".

Bob Martin, Senior Project Manager  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-369 and 50-370

Enclosure: As stated

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REQUEST FOR ADDITIONAL INFORMATION (RAI)

ADOPTION OF NATIONAL FIRE PROTECTION ASSOCIATION

STANDARD 805 FOR FIRE PROTECTION

DUKE ENERGY CAROLINAS, LLC (DUKE)

MCGUIRE NUCLEAR STATION, UNITS 1 AND 2

DOCKET NOS. 50-369, 50-370

By letter dated September 29, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16278A610), Duke Energy Carolinas, LLC (Duke, licensee) provided additional information regarding its license amendment request (LAR) to change its fire protection program to one based on the National Fire Protection Association (NFPA) Standard-805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2001 Edition. The U.S. Nuclear Regulatory Commission staff (NRC staff) is continuing its review and has determined that additional information is needed as follows.

1. In a letter dated April 26, 2016, (ADAMS Accession No. ML16127A597) Duke revised LAR Attachment S, Tables S-1 and S-2 to indicate that all modifications related to the transition to NFPA 805 have been completed. In LAR Attachment S, Table S-3, Duke indicated that implementation item 12 would be completed within 180 days after completion of the last risk related modification and that implementation items 19 and 20 would be completed by June 30, 2017.

In the September 29, 2016 letter, Duke revised the completion time for all implementation items from 180 days to 365 days and also revised the completion date for implementation item 20 to December 31, 2017, but did not provide any justification for these date changes in its letter.

The NRC staff requests that Duke submit a revised LAR Attachment S to indicate which implementation items have been completed, which may be done by the addition of a line after the description of each implementation item that states: "Status: Complete."

The NRC staff also requests that Duke submit a revised LAR Section 5.5 and LAR Attachments M and S (as applicable), describing which implementation items it expects to complete within 180 days after issuance of the license amendment approving the transition to NFPA 805 and which implementation items it expects will take longer than 180 days to complete. For implementation items taking longer than 180 days to complete, the NRC staff requests that Duke provide the specific time needed to complete these items and also the justification supporting this time period.

Enclosure

2. Title 10 of the *Code of Federal Regulations*, section 50.48(c)(3)(ii) states that:

"The licensee shall complete its implementation of the methodology in Chapter 2 of NFPA 805 (including all required evaluations and analyses) and, upon completion, modify the fire protection plan required by paragraph (a) of this section to reflect the licensee's decision to comply with NFPA 805, before changing its fire protection program or nuclear power plant as permitted by NFPA 805."

LAR Attachment B, "NEI 04-02 Table B-2 – Nuclear Safety Capability Assessment – Methodology Review," Section 2.4.2.2, "Nuclear Safety Capability Analysis," states that under NEI 00-01, "Guidance for Post Fire Safe Shutdown Circuit Analysis," (ADAMS Accession No. ML091770265), Section 3.5.1.1 (Circuit Failure Types and Impact), MNS "complies with the intent" of the requirement. In the Alignment Basis section, the LAR states:

"Gap Analysis: NEI 00-01 Revision 2 added additional guidance on circuit analysis, including the consideration of hot shorts that bypass the MOV (motor operated valve) protective devices (i.e. IN 92-18 damage). McGuire performed circuit analysis that evaluated for this condition."

NEI 00-01, Rev. 2, Section 3.5.1.1 states that:

"A hot short in the control circuitry for an MOV can bypass the MOV protective devices, i.e. torque and limit switches. This is the condition described in NRC Information Notice 92-18. In this condition, the potential exists to damage the MOV motor and/or valve."

Based on the description of the potential damage states addressed in NRC Information Notice 92-18, "Potential for Loss of Remote Shutdown Capability During a Control Room Fire," (IN 92-18), the NRC staff considers an evaluation of MOV pressure boundary integrity to be a required part of the evaluation.

However, LAR Attachment S, Table S-3, Implementation Item 20 states: "Perform additional IN 92-18 analysis to determine whether hot shorts in subject MOV control circuits could result in damage to the MOV pressure boundary. MNS will complete this analysis by December 31, 2017."

The NRC staff requests that Duke discuss the origin of the action described in implementation item 20, the extent of condition covered by the action (which valves require additional analysis), and the justification (both technically and from a schedule standpoint) for its inclusion in LAR Attachment S. The NRC staff also requests that Duke review LAR Attachment B and determine if any revisions are needed in order to accurately reflect the incomplete status of the engineering analysis addressed in Section 3.5.1.1 of NEI 00-01, Rev. 2, and submit revisions if necessary.

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Sincerely,

/RA/

Bob Martin, Senior Project Manager  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

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**ADAMS Accession No. ML16302A112**

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