

## **NRR-PMDAPEm Resource**

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**From:** Thompson, Jon  
**Sent:** Friday, June 15, 2012 1:55 PM  
**To:** 'Ashe, Ken'  
**Cc:** 'Julius.Bryant@duke-energy.com'; 'Rick.Abbot@duke-energy.com'  
**Subject:** Request for Additional Information for License Amendment Request dated March 5, 2012 (TAC Nos. ME8213 and ME8214)

**SUBJECT: MCGUIRE NUCLEAR STATION, UNITS 1 AND 2, REQUEST FOR ADDITIONAL INFORMATION REGARDING LICENSE AMENDMENT RELATED TO MEASUREMENT UNCERTAINTY RECAPTURE POWER UPRATE (TAC NOS. ME8213 AND ME8214)**

By letter dated March 5, 2012, Duke Energy Carolinas, LLC (the licensee), submitted a proposed license amendment to change the McGuire Nuclear Station, Units 1 and 2 (McGuire 1 and 2), Technical Specifications (TSs). The proposed change revises the TSs to implement a measurement uncertainty recapture power uprate for McGuire 1 and 2.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the licensee's submittal and determined that additional information is needed in order to complete our review. The enclosed document describes this request for additional information (RAI). Please note that the numbering of the questions in this RAI does not begin at the number one. Three prior RAIs regarding this proposed license amendment were issued to you by letters dated April 27, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12117A175), May 22, 2012 (ADAMS Accession No. ML12138A267), and June 6, 2012, (ADAMS Accession No. ML12158A481), with RAI questions numbered one through four, five through nineteen, and twenty through thirty one, respectively.

A telephone conference will be set up to discuss these RAI questions and the due date that your responses will be due will be set at that time. If you have any questions, please call me at 301-415-1119.

Sincerely,

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

Enclosure: RAI

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**REQUEST FOR ADDITIONAL INFORMATION**  
**BY THE OFFICE OF NUCLEAR REACTOR REGULATION**  
**REGARDING LICENSE AMENDMENT REQUEST RELATED TO THE**

# IMPLEMENTATION OF A MEASUREMENT UNCERTAINTY RECAPTURE POWER UPRATE

## MCGUIRE NUCLEAR STATION, UNITS 1 AND 2

By letter dated March 5, 2012 (Agencywide Documents Access and Management System (ADAMS), Accession No. ML12082A210), Duke Energy Carolinas, LLC (Duke Energy, the licensee), submitted a license amendment request (LAR) to change the McGuire Nuclear Station, Units 1 and 2 (McGuire 1 and 2), Technical Specifications (TSs). The proposed change revises the TSs to implement a measurement uncertainty recapture (MUR) power uprate for McGuire 1 and 2.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the licensee's submittal and determined that the following additional information is needed in order to complete our review:

1. Provide details of the load increases at various voltage levels of the Alternating Current (AC) distribution system (13.8 kiloVolt (kV) and 6.9 kV normal auxiliary system, 4.16 kV essential auxiliary system, and 600 volt (V) normal and essential systems) due to the Measurement Uncertainty Recapture (MUR) power uprate and High Pressure (HP) turbine replacement.
2. Provide a list and brief discussion of the electrical analysis and calculations which the licensee reviewed or updated to determine that the AC distribution system(s) remain bounded by the existing analysis and calculations of record.
3. Provide a discussion regarding any impact on generator protective relaying due to the increase in the main generator rating.
4. Provide a discussion of power source(s) for the new Cameron CheckPlus leading edge flow meter.
5. Provide a copy of the current One Line Diagrams of 250 V Direct Current (DC) Auxiliary Power System, 125 V DC and 240/120 V AC Auxiliary Control Power System, and safety-related 125 V DC and 120 V Vital Instrument and Control Power System.
6. Provide details of any load increases on the 250 V DC Auxiliary Power System, 125 V DC and Power System, and safety-related 125 V DC and 120 V Vital Instrument and Control Power System due to the MUR power uprate and HP turbine replacement.
7. Provide a list and brief discussion of the electrical analysis and calculations which the licensee reviewed or updated to determine that the DC distribution system(s) [including 240/120 V AC Auxiliary Control and 120 V Vital Instrument and Control Power Systems] remain bounded by the existing analysis and calculations of record.
8. Provide One Line Diagrams of 230 kV and 525 kV switchyards to which MNS Unit 1 and Unit 2 are connected. Provide a discussion of any impact on 230 kV and 525 kV switchyard components due to the increase of 40 MWe power output from each unit of MNS.
9. Provide minimum 230 KV and 500 kV switchyard voltages agreed upon between the MNS and the Transmission System Operator (TSO) for N-1 (generator trip) conditions for the pre-MUR and post-MUR operating conditions. Discuss whether these minimum switchyard voltages have been considered to calculate the degraded voltage relay settings (as provided in the MNS Technical Specifications Surveillance Requirement SR 3.3.5.2) at the safety-related buses. Discuss any impact of the post-MUR uprate conditions on the degraded voltage relay settings.

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