



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

January 20, 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 REVISE EMERGENCY ACTION LEVEL SCHEME  
(CAC NOS. MF6223 AND MF6224)

Dear Mr. Capps:

By letter dated May 7, 2015, Duke Energy Carolinas, Inc., (Duke Energy) requested approval for an emergency action level (EAL) scheme change for the McGuire Nuclear Station (MNS), Units 1 and 2 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15141A047). MNS proposes to revise their current EAL scheme to one based upon Revision 6 to Nuclear Energy Institute (NEI) document NEI 99-01, "Development of Emergency Action Levels for Non-Passive Reactors" (ADAMS Accession No. ML12326A805).

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the licensee's supplement and determined that additional information is needed in order to complete our review. The enclosed document describes this request for additional information (RAI). During a conference call on January 14, 2016, Duke staff indicated that a response would be provided within 30 days of this letter.

If you have any questions, please call me at 301-415-2481.

Sincerely,

A handwritten signature in black ink, appearing to read "G. Edward Miller".

G. Edward Miller, 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: Request for Additional  
Information

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION  
MCGUIRE NUCLEAR STATION, UNITS 1 AND 2  
RELATED TO A LICENSE AMENDMENT REQUEST  
REVISION OF EMERGENCY ACTION LEVEL SCHEME  
DUKE ENERGY CAROLINAS, LLC  
DOCKET NOS. 50-369 AND 50-370

By letter dated May 7, 2015, Duke Energy Carolinas, Inc., (Duke Energy) requested approval for an emergency action level (EAL) scheme change for the McGuire Nuclear Station (MNS), Units 1 and 2 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15141A047). MNS proposes to revise their current EAL scheme to one based upon Revision 6 to Nuclear Energy Institute (NEI) document NEI 99-01, "Development of Emergency Action Levels for Non-Passive Reactors" (ADAMS Accession No. ML12326A805).

The requests for additional information (RAIs) listed below are needed to support NRC staff's continued technical review of the proposed EAL scheme change.

RAI-MNS-01

Section 4.3, "Instrumentation Used for EALs," to NEI 99-01, Revision 6, states (in part): "*Scheme developers should ensure that specific values used as EAL setpoints are within the calibrated range of the referenced instrumentation.*" Please confirm that all setpoints and indications used in the proposed EAL scheme are within the calibrated range(s) of the stated instrumentation and that the resolution of the instrumentation is appropriate for the setpoint/indication.

RAI-MNS-02

Section 2.5, "Technical Bases Information," states: "*A Plant-specific basis section that provides MNS-relevant information concerning the EAL. This is followed by a Generic basis section that provides a description of the rationale for the EAL as provided in NEI 99-01 Rev. 6.*" Due to the high probability that EAL decision-makers will be confused between these two sections when the information appears to be inconsistent, please justify why the rationale for two sections when it is acceptable to just have one basis section that is specific to the plant, or revise accordingly to eliminate potential confusion by user.

RAI-MNS-03

Section 5.0, "Definitions," does not include definitions for the following:

- Alert,
- Notification of Unusual Event,
- Site Area Emergency,
- General Emergency,
- Emergency Action Level,

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- Emergency Classification Level,
- Fission Product Barrier Threshold, and
- Initiating Condition.

Please provide justification for omitting these definitions, or revise to incorporate these definitions consistent with NEI 99-01, Revision 6.

RAI-MNS-04

For the following EALs, please explain why the listed NOTEs were included, or revise accordingly:

- RA1.2 – NOTE-3
- RS1.2 – NOTE-3
- RG1.2 – NOTE-3

RAI-MNS-05

For EAL RA2.2, the information in the NEI 99-01 Basis section does not contain all of the actual information from NEI 99-01, as it is germane to this particular EAL. Please explain why this information was omitted, or revise accordingly.

RAI-MNS-06

For EAL RU1.2 and RA1.3, please explain why RU1.2 uses the term “Selected Licensee Commitment (SLC),” while RA1.3 uses “Offsite Dose Calculation Manual (ODCM).” Typically both use the ODCM. Please confirm and elaborate on basis for difference, or revise accordingly.

RAI-MNS-07

For EALs CU1.2, CA1.2, CS1.1 and CG1.1, please provide further detail as to why additional sumps and tanks cannot be used for these EALs, or revise accordingly.

RAI-MNS-08

Please provide further detail as to why CS1.1 and CS1.2 from NEI 99-01, Revision 6, cannot be adequately developed. A review of the current MNS EAL scheme shows that, while limited, MNS does have NCS water level monitoring capability. Please justify the removal of these EALs from the proposed MNS EAL scheme, or revise accordingly.

RAI-MNS-10

For EALs CA2.1; SS1.1 and SG1.2, please explain inclusion of the table and basis language related to the Standby Shutdown Diesel Generator, or revise accordingly, as these EALs are for a loss of all sources to power essential 4160V buses 1(2) ETA and 1(2) ETB.

RAI-MNS-11

For EAL CA3.1, please explain why the MNS Basis has a statement related to what to do when reliable NCS temperature indication is absent. If this is an accurate statement, then please explain why this is not provided as a NOTE for the EAL, or revise accordingly.

RAI-MNS-12

For EAL HU2.1, please explain in further detail the process used to determine if the seismic activity has exceeded the Operating Basis Earthquake (OBE) threshold and its classification timeliness. If the OBE threshold (vertical) is not recognized in a timely fashion from indications in, or near, the Control Room, then explain why the alternative EAL was not developed in accordance with NEI 99-01, Revision 6, or revise accordingly.

RAI-MNS-13

Please explain why there was no EAL developed, possibly as HU3.5, for ultimate heat sink (i.e., lake level) level issues, or revise accordingly.

RAI-MNS-14

For EALs HU4.1 and HU4.2, the areas listed in Table H-1 seem to be vague or too all-encompassing. Please explain if the listed areas are all the areas that contain equipment needed for safe operation, safe shutdown and safe cool-down, and if these areas can be fine-tuned to limit consideration for these EALs, or revise accordingly.

RAI-MNS-15

For EALs HU4.3 and HU4.4, please confirm that the Independent Spent Fuel Storage Installation (ISFSI) would be an area applicable to these EALs, or revise accordingly.

RAI-MNS-16

For EAL HA5.1, please note in the MNS Basis that this EAL is typically applicable in all operating modes, but is limited to operating modes 3 and 4 based upon a review of applicable areas of concern. However, if the plant is modified such that additional areas and/or operating modes become applicable, this EAL must be revised accordingly. Please explain what process is in place which ensures that future plant changes are considered for other than operating modes 3 and 4 under EAL HA5.1.

RAI-MNS-17

For EAL HS6.1, please explain why the operating mode specificity to the key safety functions listed in the EAL was not incorporated, or revise accordingly.

RAI-MNS-18

For EALs SU3.1 and SA3.1, please correct the typographical errors related to specifying the wrong tables to be referenced.

RAI-MNS-19

Under Category E – Independent Spent Fuel Storage Installation (ISFSI) guidance, the statement: *“Formal offsite planning is not required because the postulated worst-case accident involving an ISFSI has insignificant consequences to the public health and safety,”* is not applicable to this proposed EAL scheme. Please provide further justification for this statement or revise accordingly to remove.

In addition, please incorporate guidance related to the fact that EALs HU1 and HA1 are also considered for events that occur at the ISFSI, or explain basis for not including.

RAI-MNS-20

Under the Fission Product Barrier (FPB) Matrix, the cited NEI 99-01 Basis sections for several of the FPB criteria are not from the NRC-endorsed NEI 99-01, Revision 6. Please either revise to what has actually been endorsed, or (depending on the response to RAI-03), unify the basis sections into one.

RAI-MNS-21

For Fuel Clad Barrier Potential Loss 2 and Reactor Coolant System Potential Loss 1, please provide further justification as to why the Heat Sink Red language was added to the Plant-Specific Basis section, as no documentation was provided to justify its inclusion, and it appears to provide a caveat to declaration, or revise accordingly.

January 20, 2016

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Vice President  
McGuire Nuclear Station  
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G. Edward Miller, Project Manager  
Plant Licensing Branch II-1  
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Docket Nos. 50-369 and 50-370

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cc w/encl: Distribution via Listserv

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**ADAMS Accession No. ML16014A688**

**\*via email**

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