



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

December 15, 2015

MEMORANDUM TO: Michael T. Markley, Chief  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

FROM: Jeffrey A. Whited, Project Manager *Jeffrey A. Whited*  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

SUBJECT: OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3, DRAFT  
REQUEST FOR ADDITIONAL INFORMATION RE: LICENSE  
AMENDMENT REQUEST TO ADOPT EMERGENCY ACTION LEVEL  
SCHEME BASED ON NEI 99-01 REV. 6 (CAC NOS. MF6454, MF6455  
AND MF6456)

The attached draft request for additional information (RAI) was transmitted on December 9, 2015, to Duke Energy Carolinas, LLC (Duke, the licensee). This information was transmitted in order to clarify the licensee's license amendment request (LAR) submitted on June 23, 2015, for Oconee Nuclear Station (ONS), Units 1, 2, and 3. In the proposed LAR the licensee proposes to revise the ONS 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".

The draft RAI was sent to the licensee to ensure that the questions are understandable, the regulatory basis for the questions is clear, and to determine if the information was previously docketed. Duke intends to respond to these RAIs by January 29, 2015. This memorandum and the attachment do not convey or represent an NRC staff position regarding the licensee's request.

Docket Nos. 50-269, 50-270, and 50-287

Attachment: Draft RAI

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DRAFT

REQUEST FOR ADDITIONAL INFORMATION

LICENSE AMENDMENT REQUEST

EMERGENCY ACTION LEVEL SCHEME CHANGE

OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3

DOCKET NO'S. 50-269, 50-270, AND 50-287

By letter dated June 23, 2015,<sup>1</sup> Duke Energy Carolinas, Inc., (Duke) submitted a license amendment requested (LAR) for U.S. Nuclear Regulatory Commission (NRC) approval for an emergency action level (EAL) scheme change for the Oconee Nuclear Station, Units 1, 2, and 3 (ONS). Duke proposes to revise the ONS 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".<sup>2</sup>

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

RAI- 01

Section 4.3, "Instrumentation Used for EALs," of NEI 99-01, Revision 6, states, in part, that:

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- 02

Section 2.5, "Technical Bases Information," of Duke's LAR states, in part, that:

A Plant-specific basis section that provides ONS-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 may be confused between these two sections when the information appears to be inconsistent, please justify 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-03

In Section 5.0, "Definitions," of Duke's LAR, the definition for Site Area Emergency is not consistent with the definition in the NRC-endorsed guidance. Please revise accordingly, or provide further justification for inconsistency with the NRC-endorsed guidance.

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<sup>1</sup> Agencywide Documents Access and Management System (ADAMS) Accession Number ML15183A060.

<sup>2</sup> ADAMS Accession Number ML12326A805.

RAI-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-05

For EALs RU1, RA1, RS1 and RG1, please explain why the values and thresholds developed for these EALs are inconsistent with what has already been approved for ONS, or revise accordingly.

RAI-06

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 germane to this particular EAL. Please explain why this information was omitted, or revise accordingly.

RAI-07

For EAL RG2.1, the level value in the EAL, -23 feet, is inconsistent with the stated level in the ONS Basis, -23.5 feet. Please correct the discrepancy and ensure the correct ONS Level 3 value is used in this EAL, or provide justification for this difference.

RAI-08

For EALs RA3.2 and HA5.1, both of these EALs are applicable to the same areas; therefore, it is not required to have two separate tables (Table R-2 for EAL RA3.2, and Table H-2 for EAL HA5.1). In addition, the listed areas are too all-encompassing and should be refined to just those specific areas where access is required as described in the NRC endorsed guidance. Please revise the areas, or provide further justification.

RAI-09

For the description of Category E-Independent Spent Fuel Storage Installation (ISFSI), please add wording related to how security events at the ISFSI are declared.

RAI-10

For EALs CU2.1 and SA1.1, please confirm that the listed alternating current (AC) power sources are timely and reliable (i.e., will they be available when needed?), and if not, please remove them from the list.

RAI-11

The intent of EALs CA2.1, SS1.1, SG1.1 and SG1.2 is to make the appropriate emergency classification upon a loss of ALL power sources. However, the list as developed eliminates the possibility of alternative AC power sources energizing an essential bus, thus negating the need for declaring the applicable EAL. Please remove the table of AC power sources, or provide further justification.

RAI-12

For EALs CU3.1 and CA3.1, the guidance in the ONS basis related to the process to follow when core exit thermocouples (CETCs) are unavailable/unreliable should be carried over as a NOTE for this EAL to ensure this information is presented to EAL decision-makers (i.e., on the EAL wallboard).

RAI-13

For EALs CU5.1 and SU7.1, both of these EALs are applicable to the same areas; therefore, it is not required to have two separate tables (Table C-5 for EAL CU5.1, and Table S-4 for EAL SU7.1). Please provide basis for listing separate tables, or revise accordingly.

In addition, please explain the following, and if necessary, revise these EALs accordingly:

- How the EOF phone system can suffice for onsite communications?
- Are dedicated satellite phones available for onsite, offsite, and NRC communications?
- How many dedicated satellite phones are there, as it may be likely that the NRC phone will need to be dedicated for NRC communications?

RAI-14

For EAL HU2.1, please explain why the use of the abbreviation DBE (design basis earthquake) and OBE (operating basis earthquake) are inconsistently used. While the guidance eventually states that these two terms are the same for ONS, please revise to be consistent with the guidance or consistent with the ONS use of the equivalent term(s), or provide further justification. Also, please explain the need for the detailed information related to the Strong Motion Accelerometer and Tendon Gallery Peak Acceleration Recorders, as it could be implied that, pending approval, the staff agrees that these recorders will suffice for determining this EAL, or revise accordingly.

RAI-15

For EAL HU3.2, please explain why EAL SA9.1 is not also listed, along with EAL CA6.1, to ensure that the escalation path for all operating modes are addressed, or revise accordingly.

RAI-16

For EAL HU3.5, please explain, in greater detail, what this EAL is intended for and how it meets the definition of an Unusual Event. In particular, please explain what Condition B is, and how it related to the site radiological emergency plan.

RAI-17

For EAL HS3.1, please explain, in greater detail, what this EAL is intended to do and why it is at the Site Area Emergency classification level. Has there been an NRC commitment made related to ONS dam failures?

RAI-18

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-19

For EALs HU4.3 and HU4.4, please confirm that the ISFSI would be an area applicable to these EALs, or revise accordingly.

RAI-20

For EAL HS6.1, please consider adding operating mode specificity to the key safety functions listed in the EAL.

RAI-21

For EALs SU3.1 and SA3.1, please confirm that ONS evaluated the unique design aspects of the digital instrumentation used, and the applicability of these EALs to the applicable failure modes. In addition, please confirm that additional EALs are not warranted based upon digital instrumentation and control.

RAI-22

For Table F-2 in the Fission Barrier Matrix, please provide the information related to how this table was developed.

RAI-23

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 guidance (NEI 99-01, Revision 6). Please either revise to what has actually been endorsed, or (depending on the response to RAI-ONS-02), unify the basis sections into one.

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D. Johnson, NSIR/DDEP

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