

## **NRR-PMDAPEm Resource**

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**From:** Miller, Ed  
**Sent:** Friday, November 27, 2015 2:32 PM  
**To:** 'lawrence.rudy@duke-energy.com'  
**Subject:** Draft RAI for EAL Scheme Change  
**Attachments:** MF6166 Catawba EAL Scheme Change DRAI.docx

Larry,

The NRC staff's draft RAI for the subject amendment request is attached to this e-mail. The draft RAI is not an official NRC staff request and is being provided to you to facilitate a subsequent conference call to determine:

- 1) If the questions clearly convey the NRC staff information needs;
- 2) Whether the regulatory basis for the questions is understood;
- 3) Whether the information is already available in existing, docketed, correspondence; and
- 4) To determine an appropriate response time-frame.

After you've had a chance to review the draft information request, please contact me to schedule the conference call.

Ed Miller  
(301) 415-2481

**Hearing Identifier:** NRR\_PMDA  
**Email Number:** 2513

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DRAFT REQUESTS FOR ADDITIONAL INFORMATION

LICENSE AMENDMENT REQUEST

EMERGENCY ACTION LEVEL SCHEME CHANGE

CATAWBA NUCLEAR STATION, UNITS 1 AND 2

DOCKET NO'S. 50-413 AND 50-414

By letter dated April 30, 2015, Duke Energy, Inc., (Duke Energy) requested approval for an emergency action level (EAL) scheme change for the Catawba Nuclear Station (CNS), Units 1 and 2 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML15125A149). CNS 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 Number 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-CNS-01

For Section 1.0, please clarify what change control process will be used to maintain this document. If appropriate, add language to this section stating that this document will be maintained in accordance with 10 CFR 50.54(q).

RAI-CNS-02

Section 2.5, "Technical Basis Information," includes a Plant-Specific (CNS) basis section, in addition to a Generic (NEI 99-01) basis section. One of the enhancements provided in Revision 6 to NEI 99-01 is a separation of the developer's notes from the bases information. This change was made to facilitate the use of bases information for the two distinct purposes, development and classification. Considering that the EAL Technical Basis is provided to support proper emergency classification decision making, please explain why a Generic (NEI 99-01) basis section is provided rather than incorporated into Plant-Specific (CNS) basis section.

Specific examples include the following:

- Escalation should refer to CNS EAL numbering vice generic NEI 99-01 EAL numbering to facilitate timely assessments by the Emergency Coordinator.
- The Plant-Specific (CNS) basis section information should be specific to each EAL provided by the licensee. The following are examples of apparent inconsistencies:
  - For the proposed RA1.3, the NEI 99-01 basis discussion includes reference to gaseous radioactivity while the proposed RA1.3 only applies to liquid effluent samples.
  - For the proposed RA1.3 and RA1.4, the last paragraph of the NEI 99-01 basis discussion includes reference to effluent radiation monitors while the EAL only applies to field survey results.

RAI-CNS-03

For Section 4.1, it appears to reference an incorrect ADAMS number for the endorsed version of NEI 99-01, Revision 6. The endorsed version is ML12326A805. Please clarify the reference or correct this instance as well as others, if used later in the document as well.

RAI-CNS-04

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-CNS-05

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

- Alert,
- Notification of Unusual Event,
- Site Area Emergency,
- General Emergency,
- Emergency Action Level,
- Emergency Classification Level,
- Fission Product Barrier Threshold,
- Initiating Condition, and
- Independent Spent Fuel Storage Installation.

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

RAI-CNS-06

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-CNS-07

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-CNS-08

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-CNS-09

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 CNS EAL scheme shows that, while limited, CNS does have NCS water level monitoring capability. Please provide further justification for the removal of these EALs from the proposed CNS EAL scheme, or revise accordingly.

RAI-CNS-10

For EALs CU2.1, SA1.1, The incorporation of SATA Train A, and SATA Train B, into Table C-2, must include, as a note or as part of the table, that consideration for these AC Power Sources can only be given if they are already aligned, otherwise please remove from the table.

RAI-CNS-11

For EALs CA2.1, SS1.1, SG1.1, and SG1.2, Tables C-2 and S-1, "AC Power Sources" were included. These tables are limited to those power supplies that are capable of providing power to the essential buses. However, the licensee may establish the capability to power an essential bus from an alternate power supply during the additional time that may be potentially available. Please justify including Tables C-2 and S-1 for CA2.1, S1.1, SG1.1, and SG1.2 or revise accordingly.

RAI-CNS-12

For EAL CA3.1, please explain why the CNS 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-CNS-13

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-CNS-14

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-CNS-15

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-CNS-16

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-CNS-17

For EAL HA5.1, please note in the CNS Basis that this EAL is typically applicable in all operating modes, but is limited to operating mode 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 mode 4 under EAL HA5.1.

RAI-CNS-18

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-CNS-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-CNS-20

For EAL SU8.1, please explain why the information from the CN Basis related to the timing of the declaration is not in the actual EAL or as a note, or revise accordingly.

RAI-CNS-21

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-CNS-22

For the Fission Barrier Matrix, please provide the documentation supporting the values from Table F-2.