NRR-DMPSPEm Resource

From: Barillas, Martha
Sent: Wednesday, November 28, 2018 1:25 PM
To: Robertson, Jeffrey N; McDaniel, Sarah A
Subject: Shearon Harris Nuclear Power Plant, Unit 1 Request for Additional Information for EAL scheme changes
Attachments: Harris EP EAL scheme changes RAI.pdf

Mr. Robertson,

By letter dated August 13, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18226A022), Duke Energy Progress, LLC (the licensee) requested approval for an emergency action level (EAL) scheme change for Shearon Harris Nuclear Power Plant, Unit 1 (HNP). The U.S. Nuclear Regulatory Commission (NRC) staff has determined that additional information is needed to complete its review. The attached Request for Additional Information (RAI) was e-mailed to the licensee in draft form on November 19, 2018. A clarification call was held on November 27, 2018. The licensee agreed to provide responses to the final RAI by December 27, 2018. A publicly-available version of this final RAI and email will be placed in the NRC's ADAMS.

Please note that if a response to this email is not received by this date, or an acceptable alternate date with a justification for an extension is not provided in writing, we may deny the application for amendment under the provisions of Title 10 of the *Code of Federal Regulations,* Part 2, Section 108, "Denial of application for failure to supply information."

If you have any questions, please contact me at 301-415-2760 or via email at Martha.Barillas@nrc.gov.

Sincerely,

Martha Barillas
Project Manager
NRR/DORL/Licensing Branch II-2
US Nuclear Regulatory Commission
301-415-2760

Hearing Identifier: NRR_DMPS
Email Number: 685

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From: Barillas, Martha

Created By: Martha.Barillas@nrc.gov

Recipients:
"Robertson, Jeffrey N" <Jeffrey.Robertson@duke-energy.com>
Tracking Status: None
"McDaniel, Sarah A" <Sarah.McDaniel@duke-energy.com>
Tracking Status: None

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DUKE ENERGY PROGRESS, LLC

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1

DOCKET NO. 50-400

REQUEST FOR ADDITIONAL INFORMATION

REGARDING LICENSE AMENDMENT REQUEST FOR

EMERGENCY ACTION LEVEL SCHEME CHANGE

By letter dated August 13, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18226A022), Duke Energy Progress, LLC, (the licensee) requested approval for an emergency action level (EAL) scheme change for Shearon Harris Nuclear Power Plant, Unit 1 (HNP). The U.S. Nuclear Regulatory Commission (NRC) staff has determined the following request for additional information (RAI) is needed in order to complete its review.

The requirements of Section 50.47(b)(4) to Title 10 of the *Code of Federal Regulations* (10 CFR) state, in part:

> *A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee...*

The most recent industry EAL scheme development guidance is provided in the Nuclear Energy Institute (NEI) document NEI 99-01, "Development of Emergency Action Levels for Non-Passive Reactors" (ADAMS Accession Number ML12326A805). By letter dated March 28, 2013, the NRC endorsed NEI 99-01, Revision 6, as acceptable generic (i.e., non-plant-specific) EAL scheme development guidance. HNP proposes to revise their current EAL scheme for containment radiation monitors to correct identified deficiencies and bring the site into alignment with the approved EAL methodology, Nuclear Energy Institute (NEI) 99-01 Revision 6, "Development of Emergency Action Levels for Non-Passive Reactors."

(In the RAIs below, the section or initiating condition category are listed with the HNP nomenclature first and if any change from NEI guidance listed in brackets.)

HNP RAI-1

Emergency action level (EAL) threshold levels for CS1.3 and CG1.2 [CS1 and CG1] are applicable in Modes 5 and 6. However, page 5 of Enclosure 5, "Calculation for Radiation Monitor Readings for Core Uncovery during Refueling," provides that the CG1.2 radiation monitor threshold value is predicated on the loss of water above the core during refueling shutdown with the reactor vessel head removed. EAL CS1.3 uses the same radiation value as EAL CG1.2. No radiation monitor threshold values were provided for Modes 5 or 6 with the head installed.

a. Although Enclosure 5 provides that the radiation monitor threshold is predicated on a loss of water with the reactor vessel head removed, there was no note or other guidance provided in the threshold values for EALs CS1.3 or CG1.2, which indicated that the threshold value is

based on the reactor vessel head being removed. Please explain how an inaccurate or delayed classification would not occur if EALs CS1.3 and CG1.2 do not clearly indicate that the threshold values are based on the reactor vessel head being removed.

b. The staff could not determine if an accurate containment radiation threshold value, corresponding to reactor vessel level being approximately at the top of active fuel, could be determined with the reactor vessel head installed. Please explain why a containment radiation level threshold value indicating water level at the top of active fuel was not provided with the reactor vessel head installed.

HNP RAI-2

The Table F-1 Fission Product Barrier Threshold Matrix for Containment Radiation provides the radiation monitors that should be used to assess the fission product barriers. As proposed, two separate types of monitors with different ranges will be used to assess containment radiation. The associated values to assess Table F-1 threshold values for containment radiation are provided on Table F-2, "Containment Radiation." Since Table F-2 does not include which radiation monitors should be used, and uses both milli-rem and rem (which is only provided in the title block), there is a potential for either a delayed or inaccurate classification. Please explain how the proposed Table F-1 and F-2 will not cause either a potential delay or an inaccurate classification of fission product barriers based on containment radiation values or revise accordingly.