

NRR-PMDAPeM Resource

From: Hall, Randy
Sent: Wednesday, December 21, 2016 10:33 AM
To: Wasik, Christopher J (Christopher.Wasik@duke-energy.com)
Cc: 'boyd.shingleton@duke-energy.com'; Newman, Stephen (Stephen.Newman@duke-energy.com)
Subject: Oconee Units 1, 2, and 3, Keowee Generator Stator Replacement LAR - Draft Request for Additional Information (CAC Nos. MF7417, MF7418, MF7419)
Attachments: Draft RAIs.docx

December 21, 2016

SUBJECT: OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3, DRAFT REQUEST FOR ADDITIONAL INFORMATION RE: LICENSE AMENDMENT REQUEST TO ADDRESS GENERATOR STATOR REPLACEMENT FOR THE KEOWEE HYDRO UNITS (CAC NOS. MF7417, MF7418, MF7419)

Mr. Wasik,

By letter dated February 26, 2016 (Agencywide Documents Access and Management System Accession No. ML16064A020), Duke Energy Carolinas, LLC (the licensee) requested amendments to the licenses for the Oconee Nuclear Station (ONS), Units 1, 2, and 3, to support the planned generator stator replacement activities at the Keowee Hydroelectric Station (KHS).

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the information submitted by the licensee, and based on this review, determined additional information is required to complete the assessment of the license amendment request. Please find attached a draft copy of the NRC staff's additional information request. These draft RAIs are being sent to you to ensure that the questions are understandable, the regulatory basis for the questions are clear, and to determine if the information was previously docketed. Please notify me if you desire to hold a teleconference to discuss the questions. If no clarification is needed, the NRC staff requests your written response to the RAIs by January 31, 2017.

Thank you,

Randy Hall, Senior Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation
USNRC
(301) 415-4032
Randy.Hall@nrc.gov

Hearing Identifier: NRR_PMDA
Email Number: 3536

Mail Envelope Properties (Randy.Hall@nrc.gov20161221103300)

Subject: Oconee Units 1, 2, and 3, Keowee Generator Stator Replacement LAR - Draft
Request for Additional Information (CAC Nos. MF7417, MF7418, MF7419)
Sent Date: 12/21/2016 10:33:16 AM
Received Date: 12/21/2016 10:33:00 AM
From: Hall, Randy

Created By: Randy.Hall@nrc.gov

Recipients:

"boyd.shingleton@duke-energy.com" <boyd.shingleton@duke-energy.com>

Tracking Status: None

"Newman, Stephen (Stephen.Newman@duke-energy.com)" <Stephen.Newman@duke-energy.com>

Tracking Status: None

"Wasik, Christopher J (Christopher.Wasik@duke-energy.com)" <Christopher.Wasik@duke-energy.com>

Tracking Status: None

Post Office:

Files	Size	Date & Time
MESSAGE	1553	12/21/2016 10:33:00 AM
Draft RAIs.docx	22443	

Options

Priority: Standard

Return Notification: No

Reply Requested: No

Sensitivity: Normal

Expiration Date:

Recipients Received:

DRAFT REQUEST FOR ADDITIONAL INFORMATION

DUKE ENERGY CAROLINAS, LLC

OCONEE NUCLEAR STATION (ONS), UNITS 1, 2 & 3

LICENSE AMENDMENT REQUEST TO ADDRESS GENERATOR

STATOR REPLACEMENT FOR THE KEOWEE HYDROELECTRIC UNITS

(CAC NOS. MF7417, MF7418, MF7419)

DOCKET NOS. 50-269, 50-270, and 50-287

By letter dated February 26, 2016 (Agencywide Documents Access and Management System Accession No. ML16064A020), Duke Energy Carolinas, LLC (the licensee) requested amendments to the licenses for ONS Units 1, 2, and 3, to support the planned generator stator replacement activities at the Keowee Hydroelectric Station (KHS). The two Keowee Hydro Units (KHUs) provide emergency power for ONS Units 1, 2, and 3. Specifically, the proposed changes would add a one-time Completion Time to ONS Technical Specification (TS) 3.8.1, Required Action (RA) C.2.2.5, to allow sufficient time for the licensee to replace the stator on each of the KHUs, without requiring the shutdown of the nuclear units.

The NRC staff has reviewed the information provided by the licensee regarding the proposed changes. The following information is needed to complete our review of the license amendment request (LAR).

1. An off-site power system (preferred power) and an onsite power system (KHUs) are provided for each ONS unit to supply power to the unit auxiliaries during normal operation, and to the Reactor Protective System and Engineered Safeguards (ES) Protective System during abnormal and accident conditions. Each ONS unit has multiple available sources of electrical power to the ES Protective System. These include each unit's Main Generator to Auxiliary Transformer (designated as 1T, 2T, and 3T, for Units 1, 2, and 3, respectively), multiple offsite sources to the 230kV Switchyard yellow bus to each unit's Startup Transformer (designated as CT1, CT2, and CT3, for Units 1, 2, and 3, respectively), the Keowee Overhead Power Path to the 230kV Switchyard yellow bus, and the Keowee Underground Power Path through transformer CT-4 to the redundant standby power buses.

In light of the March 6, 2016, main transformer MT1 failure, which lead to the unavailability of the Keowee overhead emergency power path, please provide the following information in order for the staff to better understand the reliability of the ONS power transformers and alternate sources:

- A. Confirm and explain how all power transformers, including overhead lines and connections, used for onsite and offsite power systems will be inspected

and tested prior (i.e., 3-6 months) to the planned KHU outages in accordance with applicable industry standards.

- B. Provide a brief summary of the most recent test results, including preventive maintenance and condition monitoring actions, and surveillances performed to demonstrate that the power sources are reliable and operable.
2. The staff understands that ONS has implemented interim corrective actions to manually detect open phase conditions (OPC) until plant modifications are completed by December 2018. Please confirm that OPC modifications will be implemented prior to this scheduled KHU stator replacement maintenance of the onsite power systems.
3. Section 2.4 of the LAR, "Keowee Stator Replacement Schedule," under "Schedule Contingency," states that a one-day contingency has been included prior to the start of each dual KHU outage to account for schedule delays caused by delayed entry into each dual KHU outage for severe weather. Three days of contingency have been added to account for schedule delays caused by severe weather (icing, high humidity, rain). Duke Energy has committed to not enter an extended single KHU outage or a dual KHU outage if severe weather is forecast to occur within 2 days.
 - A. Assuming all the prerequisite planned actions have been completed in readiness for the KHU outage, please explain why a one day contingency prior to each KHU dual outage is needed.
 - B. Please confirm that, prior to scheduling the maintenance outage, plant staff will review operating experience and historical weather patterns in order to minimize risk to plant power sources due to severe weather.