



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

December 14, 2022

Mr. David P. Rhoades
Senior Vice President
Constellation Energy Generation, LLC
President and Chief Nuclear Officer (CNO)
Constellation Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3 – AUDIT PLAN TO SUPPORT THE REVIEW OF LICENSEE’S INFORMATION RELATED TO EQUIPMENT QUALIFICATION RE: LICENSE AMENDMENT REQUEST FOR TRANSITION TO GNF3 FUEL (EPID L-2022-LLA-0121)

Dear Mr. Rhoades:

By application dated August 18, 2022 (Agencywide Document Access and Management System (ADAMS) Accession No. ML22230C927), Constellation Energy Generation, LLC (CEG, the licensee) submitted a license amendment request (LAR) with a proposed change that supports the transition from Framatome ATRIUM 10XM fuel to GNF3 [Global Nuclear Fuel] fuel at Dresden Nuclear Power Station (DNPS), Units 2 and 3. The proposed change includes revising Technical Specification (TS) 5.6.5, “Core Operating Limits Report [COLR],” paragraph b, to add two reports (NEDC-33930P and 006N8642-P) that support the General Electric Standard Application for Reactor Fuel (GESTAR) analysis methodology to the list of approved methods to be used in determining the core operating limits in the COLR. In addition, the proposed change also includes deletion of the eight Westinghouse topical reports that will no longer be used to support COLR evaluations after the fall outage in 2023. The licensee also plans to utilize Framatome RODEX2A methodology with an additional thermal conductivity degradation (TCD) penalty in mixed core thermal-mechanical calculations for the ATRIUM 10XM fuel in the DNPS core during this fuel transition.

Section 3.4.2 of Attachment 1 to the licensee’s amendment request provides a discussion of its evaluation of the GNF3 fuel fission product core inventory for an impact on the environmental qualification (EQ) program. The NRC staff will conduct a regulatory audit to support its review in accordance with the enclosed audit plan. A regulatory audit is a planned activity that includes the examination and evaluation of primarily non-docketed information.

The U.S. Nuclear Regulatory Commission (NRC) staff will perform the audit to support its evaluation of whether the licensee’s request can be approved per Title 10 of the *Code of Federal Regulations* (10 CFR), section 50.90, and for the staff to review continued compliance with 10 CFR 50.49. The audit will be conducted to determine and identify whether additional information is needed, that will require docketing or for NRC staff to develop conclusions to support the staff’s regulatory findings. The audit will be conducted between January 3, 2023,

and March 3, 2023, primarily for staff to review documents remotely, and hold virtual conference calls as necessary, and with the use of an online portal (also known as electronic portal, ePortal, electronic reading room) established by the licensee. The enclosed audit plan was discussed with your staff on December 1, 2022.

If you have any questions, please contact Surinder Arora at 301-415-1421, or by email at Surinder.Arora@nrc.gov.

Sincerely,

/RA/

Surinder Arora, Project Manager
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-237, 50-249

Enclosure:
Audit Plan

cc: Listserv



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REGULATORY AUDIT PLAN
TO SUPPORT REVIEW OF EQUIPMENT QUALIFICATION
OF ELECTRICAL EQUIPMENT RELATED TO THE LICENSE AMENDMENT REQUEST
REGARDING TRANSITION TO GNF3 FUEL
DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3
DOCKET NOS. 50-237 AND 50-249

1.0 BACKGROUND

By letter dated August 18, 2022 (Agencywide Documents Access Management System (ADAMS) Accession No. ML22230C927), Constellation Energy Generation, LLC (the licensee) submitted a license amendment request (LAR) for Dresden Nuclear Power Station, Units 2 and 3 (DNPS), focused on the transition to Global Nuclear Fuel, GNF3 fuel. Part of the LAR included the U.S. Nuclear Regulatory Commission (NRC) review and approval of the licensee's information related to environmental qualification (EQ) of relevant electrical equipment. The NRC staff will conduct a regulatory audit to support its EQ review on this LAR. The NRR Office Instruction LIC-111, "Regulatory Audits" (ML082900195), states that a regulatory audit is a planned, licensed, or regulation-related, activity that includes the examination of primarily non-docketed information with the intent to gain understanding, to verify information, or to identify information that will require docketing to support the basis of the licensing or regulatory decision.

2.0 REGULATORY AUDIT BASIS

The NRC staff will perform the audit to support its evaluation of whether the licensee's request can be approved per Title 10 of the *Code of Federal Regulations* (10 CFR), section 50.90, and for the staff to review continued compliance with 10 CFR 50.49.

3.0 REGULATORY AUDIT SCOPE

The NRC staff will review the licensee's information related to EQ of relevant electrical equipment to determine if any additional information will require docketing to support or develop conclusions for the NRC staff's safety evaluation of the requested license amendment.

4.0 INFORMATION AND OTHER MATERIAL NECESSARY FOR THE REGULATORY AUDIT

The NRC staff requests the licensee to have the following information readily available and accessible for the NRC staff's review preferably via an internet-based portal (e.g., ePortal, electronic reading room) so the audit can be performed remotely related to EQ of electrical equipment:

- a. The engineering technical evaluation that compared the revised Total Integrated Dose (TID), which includes both normal, accident, and margin dose components, to the current qualified TID that the licensee used to evaluate the radiological impacts of the fuel transition on the DNPS Environmental Qualification Program.
- b. Vendor prepared documentation to support statements regarding the impacts of the fuel transition on other environmental parameters such as temperature, pressure, humidity, and chemical spray.

The NRC staff will determine whether it needs to request any additional documents to be made available after reviewing the above information.

5.0 TEAM AND REVIEW ASSIGNMENTS

The regulatory audit will be held virtually. The audit team will consist of the following NRC staff:

- Surinder Arora, Project Manager
- Kayleh Hartage, Electrical Engineer
- Matthew McConnell, Senior Electrical Engineer

6.0 LOGISTICS

The audit will be conducted between January 3, 2023, to March 3, 2023. The licensee should provide the necessary documents and relevant licensee staff who can discuss the issue. The audit will include an exit meeting to summarize key points, actions, and any follow-up items.

The audit will include review of documents by the NRC staff, and a discussion with the licensee using a virtual platform (e.g., Microsoft Teams) during the week of January 29, 2023. The NRC staff will also confirm the sensitivity of any information discussed or provided.

If any additional information is submitted to the electronic reading room, the audit team will confirm with the licensee that the information made available on the online portal contains any sensitive or proprietary information. The audit team may request that representatives of the licensee answer audit team questions during the audit related to information provided on the portal at a mutually agreeable day and time by telephone or Microsoft Teams conference, if needed.

The NRC project manager will coordinate any changes to the audit schedule or needs of an onsite audit with the licensee.

7.0 SPECIAL REQUESTS

The audit team would like access to documents through an online portal (also known as eDocs, electronic reading room, ePortal) that allows the audit team to access documents via the

internet. The following conditions associated with the online portal must be maintained throughout the duration that the audit team has access to the online portal:

- The online portal will be password-protected, and separate passwords will be assigned to the NRC staff who are participating in the audit.
- The online portal will be sufficiently secure to prevent the NRC staff from printing, saving, downloading, or collecting any information on the online portal.
- Conditions of use of the online portal will be displayed on the login screen and will require acknowledgment by each user.

Username and password information should be provided directly to the NRC staff. The NRC project manager will provide the licensee any additional names and contact information of the NRC staff, if needed. All other communications should be coordinated through the NRC project manager.

8.0 DELIVERABLES

An audit summary, which may be made public, will be provided within 90 days of the completion of the audit. Additionally, the NRC staff will develop any requests for additional information, after the audit, as needed, which will be provided to the licensee via separate docketed correspondence.

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OFFICE	NRR/DORL/LPL3/PM	NRR/DORL/LPL1/LA	NRR/DEX/ELTB/BC	NRR/DORL/LPL3/BC
NAME	SArora	SRohrer	JPaige	NSalgado
DATE	11/23/22	12/5/22	12/12/22	12/14/22
OFFICE	NRR/DORL/LPL3/PM			
NAME	SArora			
DATE	12/14/22			

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