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

April 17, 2020

Mr. Daniel G. Stoddard
Senior Vice President and Chief Nuclear Officer
Innsbrook Technical Center
5000 Dominion Blvd.
Glen Allen, VA 23060-6711

SUBJECT: SURRY NUCLEAR POWER STATION, UNITS 1 AND 2 AND NORTH ANNA POWER STATION UNITS 1 AND 2 – AUDIT RE: PROPOSED LICENSE AMENDMENT REQUEST FOR THE ADDITION OF WESTINGHOUSE TOPICAL REPORT WCAP-16996-P-A, REVISION 1, TO THE CORE OPERATING LIMITS REPORT (EPID L-2019-LLA-0243 AND EPID L-2019-LLA-0236)

Dear Mr. Stoddard:

By letters dated October 30, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML19309D196 and ML19309D197), Dominion Energy Virginia (Dominion), submitted a license amendment request for Surry Nuclear Power Station (Surry), Units 1 and 2 and North Anna Power Station (North Anna), Units 1 and 2. The proposed amendments request the addition of Westinghouse Topical Report WCAP-16996-P-A, Revision 1,to the Core Operating Limits Report.

The U.S. Nuclear Regulatory Commission (NRC) staff will conduct a regulatory audit to support its review of the proposed license amendments. The audit is planned to be conducted remotely or on-site at Surry to facilitate access to the licensee's probabilistic risk assessment (PRA) models, documentation, and technical experts. The NRC staff intends to start the audit on April 22, 2020, and the logistics and scope of the audit plan enclosed.

If you have any questions, please contact me by telephone at (301) 415-5897 or by e-mail at vaughn.thomas@nrc.gov.

Sincerely,

/RA/

Vaughn V. Thomas, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-280 and 50-281; 50-338 and 50-339

Enclosures:
(1) Audit Plan
(2) Appendix A: Audit Topics

cc: Listserv

AUDIT PLAN

LARGE BREAK LOSS-OF-COOLANT ACCIDENT METHODOLOGY

DOMINION ENERGY VIRGINIA

NORTH ANNA POWER STATION, UNITS 1 AND 2

DOCKETS NOS. 50-338 AND 50-339

AND

SURRY POWER STATION, UNITS 1 AND 2

DOCKET NOS. 50-280 AND 50-281

1.0 BACKGROUND

By letters dated October 30, 2019, Dominion Energy (the licensee) submitted license amendment requests (LARs) for Surry and North Anna Power Stations Units 1 and 2, respectively. The proposed amendments request the addition of Westinghouse Topical Report WCAP-16996-P-A, Revision 1, "Realistic LOCA Evaluation Methodology Applied to the Full Spectrum of Break Sizes (FULL SPECTRUM LOCA Methodology)," to the list of methodologies approved for reference in the Core Operating Limits Report (COLR).

The U.S. Nuclear Regulatory Commission (NRC) staff is currently performing a detailed review of the proposed license amendment requests. Due to the complexity of the proposed amendment, the NRC staff has determined that an audit is needed to help resolve the complex technical issues rather than issuing several rounds of requests for additional information (RAI).

The NRC staff is requesting a regulatory audit in accordance with the Office of Nuclear Reactor Regulation (NRR) Office Instruction LIC-111, "Regulatory Audits," dated October 31, 2019 (ADAMS Accession No. ML19226A274), for the NRC staff to gain a better understanding of the licensee's calculations and other aspects supporting the LARs. The audit is for voluntary submittals pursuant to 10 CFR 50.90 for Surry Units, 1 and 2, and North Anna, Units 1 and 2.

2.0 REGULATORY AUDIT SCOPE

A regulatory audit is conducted with the intent to gain understanding, to verify information and/or to identify information that will require docketing to support the basis for the proposed licensing or regulatory decision.

The regulatory bases for the NRC are the requirements contained in the Title10, "Energy," of the *Code of Federal Regulation* (10 CFR), Section 50.46, "Acceptance Criteria for Emergency Core Cooling Systems (ECCS) for Light Water Nuclear Power Reactors."

3.0 REGULATORY AUDIT SCOPE AND METHODOLOGY

The audit will cover the following documents and topics:

- Calculation notes and related documentation supporting the license amendment requests

- Criteria and methods used in the LBLOCA [Large Break Loss-of-Coolant Accident] analyses

4.0 INFORMATION AND OTHER MATERIAL NECESSARY FOR THE AUDIT

The NRC audit team will require access to personnel knowledgeable in all aspects of the LARs and any documentation which supports the license amendment requests. Specific areas of discussion and relevant questions are included in Appendix A of this audit plan. The NRC staff requests the licensee provide the supporting documents electronically (i.e., internet SharePoint) to support a remote audit.

5.0 TEAM ASSIGNMENTS

The audit will be conducted by NRC staff from NRR, Division of Safety Systems (DSS), Nuclear Systems Performance Branch (SNSB). The NRC audit team consists of:

- Fred Forsaty, Technical Reviewer
- Vaughn Thomas, Project Manager
- Ed Miller, Project Manager

6.0 LOGISTICS

The Division of Operating Reactor Licensing (DORL) PM will schedule an entrance meeting for this audit and an exit meeting based on a mutually agreed upon date and time. The DORL PM will provide updates to the licensee upon request and facilitate any additional request the technical staff may have to the licensee.

7.0 DELIVERABLES

A regulatory audit summary will be issued within 60 days after the completion of the audit and exit meeting with the licensee. The summary will use the NRR Office Instruction, LIC-111, *"Regulatory Audits."* Any additional information needed to support the safety evaluation that was identified from the audit will be transmitted to the licensee from DORL as requests for additional information.

8.0 REFERENCES

1. Sartain, Mark, Vice President, Virginia Electric Power Company (Dominion Energy Virginia), letter to U.S. NRC, "Virginia Electric and Power Company North Anna Station Units 1 and 2 Proposed License Amendment Request Addition of Analytical Methodology to the Core Operating Limits Report For A Full Spectrum Loss of Coolant Accident (FSLOCA)," dated October 30, 2019 (Agencywide Documents Access and Management System (ADAMS), Accession No. ML19309D197.

2. Sartain, Mark, Vice President, Virginia Electric Power Company (Dominion Energy Virginia), letter to U.S. NRC, "Virginia Electric and Power Company North Anna Station Units 1 and 2 Proposed License Amendment Request Addition of Analytical Methodology to the Core Operating Limits Report For A Large Break Loss of Coolant Accident (LBLOCA)," dated October 30, 2019 (Agencywide Documents Access and Management System (ADAMS), Accession No. ML19309D196.

4. U.S. NRC Office Instruction, LIC-111, Revision 1, "Regulatory Audits, dated October 31, 2019 (ADAMS Accession No. ML19226A274).

Appendix A: Audit Topics

1. Any relationships or dependencies between this license amendment request (LAR) and the VA Power SBLOCA (Small Break Loss-of-Coolant Accident) LAR (ADAMS Accession No. ML18198A118, dated July 12, 2018, EPID NOS. L-2018-LLA-0215).

2. The power shape as described in this LAR and its consistency with or deviation from the current final safety analysis report (FSAR)

3. Explain and justify deletion of Technical Specification (TS) 6.2.C in the Surry LAR.

4. ECCS pump curve used in this application. Is this pump curve similar to the one used in the current FSAR accident analyses?

Attachment 4 of the LAR

5. Compliance to Limitation and Condition Number 3 concerning the minimum initial temperature associated with normal full power is modeled.

6. Compliance to Limitation and Condition Number 5 concerning details of the maximum analyzed assembly and rod length-average burnups used in the analysis in this LAR.

7. Compliance to Limitation and Condition Number 12 concerning the approach used in modeling the bounding and plant-specific dynamic pressure loss from the steam generator secondary side to the main steam safety valves.

8. Compliance to Limitation and Condition Number 13 concerning specific modeling of the upper head spray nozzle requirements.

9. Compliance to Limitation and Condition Number 15 concerning uncertainty method used.

10. Assumptions used in Tables 1 through 4 and consistency with the input assumptions used in the current FSAR analysis. Please explain the differences and the possible impacts to the new analysis results.

11. For Figure 6, explain the presence of the double peaks in the mass flow rate verses time after break.

12. For Figure 7, explain the sharp peak in the pressure verses time after break.

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ADAMS Accession No. ML20099F873 *via email

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