



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

September 15, 2022

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

SUBJECT: SURRY POWER STATION, UNITS 1 AND 2 – SURRY TURBINE BUILDING
WIND LOADING BASIS CHANGE AUDIT PLAN (EPID L-2022-LLA-0056)

Dear Mr. Stoddard:

By letters dated April 14, 2022 and May 11, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML22104A125 and ML22131A326, respectively), Virginia Electric and Power Company, the licensee (Dominion Energy Virginia) submitted a license amendment request (LAR) for the Surry Power Station, Units 1 and 2 (Surry). In its LAR, Dominion Energy Virginia proposed to reclassify the Turbine Building as a tornado-resistant structure.

Subsequent to the LAR's acceptance, the U.S. Nuclear Regulatory Commission (NRC) staff identified several items that require further clarification and detailed explanations. Therefore, the NRC staff will conduct a regulatory audit to support the LAR's 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 audit will be conducted to increase the NRC staff's understanding of the LAR and identify any information that may require docketing to support the NRC staff's regulatory finding.

The audit will be conducted using video conferencing and an eDocs web portal (also known as an online portal, electronic portal, ePortal, electronic reading room) from September 30, 2022, to October 26, 2022. The outline for the logistics, schedule, and scope of this audit were initially discussed with your staff in September 2022. The audit plan is enclosed.

D. Stoddard

- 2 -

If you have any questions, please contact me at (301) 415-5136, or via email at John.Klos@nrc.gov.

Sincerely,

/RA/

John Klos, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-280 and 50-281

Enclosure:
Audit Plan

cc: Listserv

AUDIT PLAN
FOR
SURRY TURBINE BUILDING
WIND LOADING BASIS CHANGE LICENSE AMENDMENT
VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION, UNIT NOS. 1 AND 2
DOCKET NOS. 50-280 AND 50-281

1.0 BACKGROUND

By letters dated April 14, 2022 and May 11, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML22104A125 and ML22131A326, respectively), Virginia Electric and Power Company, the licensee (Dominion Energy Virginia) submitted a license amendment request (LAR) for the Surry Power Station, Units 1 and 2 (Surry). In its LAR, Dominion Energy Virginia proposed to reclassify the Turbine Building as a tornado-resistant structure.

2.0 REGULATORY AUDIT BASES

A regulatory audit is a planned license or regulation-related activity that includes the examination and evaluation of primarily non-docketed information. The audit is conducted with the intent to gain understanding, to verify information, and to identify information that may require docketing to support the basis of a licensing or regulatory decision. Performing a regulatory audit is expected to assist the U.S. Nuclear Regulatory Commission (NRC) staff in efficiently conducting its review and gaining insights to the licensee's processes, procedures, engineering documentation and calculations related to the LAR. Information that the NRC staff relies upon to make the safety determination must be submitted on the docket.

During the initial plant licensing of Surry, it was demonstrated that the Safety Injection, Containment Spray, and Recirculation Spray systems met the regulatory requirements in place at that time. The General Design Criteria (GDC) included in Appendix A to Title 10 of the *Code of Federal Regulations* (10 CFR) 50 did not become effective until May 21, 1971. The Construction Permits for Surry were issued prior to May 21, 1971; consequently, Surry was not subject to current GDC requirements (SECY-92-223, dated September 18, 1992). Section 1.4 of the Surry Updated Final Safety Analysis Report (UFSAR) discusses compliance with the GDC published in 1967 (Draft GDC), and the UFSAR discussion demonstrates that Surry meets the intent of these criteria.

This regulatory audit is based on the following regulatory requirements and guidance:

Appendix A to Part 50, General Design Criterion (GDC) 2, "Design bases for protection against natural phenomena," states that structures, systems, and components important to safety shall be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes,

hurricanes, floods, tsunamis, and seiches without loss of capability to perform their safety functions. The design bases for these structures, systems, and components shall reflect appropriate combinations of the effects of normal and accident conditions with the effects of the natural phenomena.

Appendix A to Part 50, GDC 4, "Environmental and dynamic effects design bases," states that structures, systems, and components important to safety shall be designed to accommodate the effects of and to be compatible with the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents, including loss-of-coolant accidents. These structures, systems, and components shall be appropriately protected against dynamic effects, including the effects of missiles, pipe whipping, and discharging fluids, that may result from equipment failures and from events and conditions outside the nuclear power unit.

Regulatory Guide 1.76, "Design-basis Tornado and Tornado Missiles for Nuclear Power Plants," March 2007 (ML070360253) states that nuclear power plants must be designed so that they remain in a safe condition under severe meteorological events, including those that could result in the most severe tornado that could reasonably be predicted to occur at the site.

3.0 SCOPE

The audit team will view the documentation and calculations that provide the technical support for the LAR. The scope of the NRC staff's audit will focus on the following subjects:

1. The engineering assumptions, methodology, industry standards/codes, input variables and related calculations and outputs/results that support the amendment's accountability for tornado missile effects and the turbine building's wind load basis change. These documents should present and discuss; the missile types considered, the applied loads, roof collapse scenarios and the related dynamic load factors, the stress-strain curve development for A36 carbon steel, and siding failure basis, and the license amendment's change in wind load.

In addition, the audit team may request to discuss these topics with the licensee's subject matter experts. The NRC staff will conduct this audit under the guidance provided in Office of Nuclear Reactor Regulation Office Instruction LIC-111, "Regulatory Audits," Revision 1 (ML19226A274).

4.0 INFORMATION AND OTHER MATERIAL NECESSARY FOR THE REGULATORY AUDIT

The NRC staff requests that the documents, data, and calculations regarding the scope above be made available to the NRC staff via the licensee's electronic reading room.

The NRC staff acknowledges and will observe appropriate handling and protection of proprietary information made available for the audit. The NRC staff will not remove non-docketed information from the audit site or eDocs web portal.

5.0 AUDIT TEAM

The following are the NRC audit team members:

- George Wang, Civil Engineer, George.Wang@nrc.gov
- Bryce Lehman, Civil Engineer, Bryce.Lehman@nrc.gov
- John Klos, Surry Licensing Project Manager, John.Klos@nrc.gov

6.0 LOGISTICS

The audit will be conducted using video conferencing and an eDocs web portal from September 30, 2022 to October 26, 2022. During the audit, information may be shared using video conference and telephone conference based on the schedule below and additional discussions, as necessary. The licensee's representatives are requested to be available for video or audio conferences on the audit's scheduled discussion days as they are determined by the NRC licensing project manager and the Surry licensing team. The NRC project manager will coordinate any changes to the audit schedule and locations with the licensee and the NRC staff. The NRC staff would like remote access to the available and related documents listed in Sections 3.0 and 4.0 by September 30, 2022, or before that date based on the licensee availability. If this schedule needs to be adjusted please contact John Klos of the NRC at (301) 415-5136, or via email at John.Klos@nrc.gov.

Audit Schedule

Date	Time	Subject
September 30, 2022	12:00 pm	Audit start date
October 19, 2022	TBD	Scheduled discussion of portal items, and any review items of concern
October 26, 2022	12:00 pm	Audit completion date

7.0 SPECIAL REQUESTS

The following conditions associated with the eDocs web portal must be maintained throughout the duration that the NRC staff have access to the eDocs web portal:

- The eDocs web will be password-protected, and separate passwords will be assigned to the NRC staff who are participating in the audit.
- The eDocs web 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 eDocs web 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 the names and contact information of the NRC staff who will be participating in the audit. All other communications should be coordinated with the NRC project manager. NRC staff access to the eDocs web portal needs to be terminated 30 days after the end of the regulatory audit.

8.0 DELIVERABLES

Upon completion of the audit, the regulatory audit summary report will be placed into ADAMS within 90 days of the completion of the audit or before the regulatory action that the audit supports is completed, whichever is shorter. If the NRC staff identifies information during the audit that is needed to support its regulatory decision, the NRC staff will issue requests for additional information to the licensee as soon as possible after the end date of the audit.

SUBJECT: SURREY POWER STATION, UNITS 1 AND 2 – SURREY TURBINE BUILDING
WIND LOADING BASIS CHANGE AUDIT PLAN (EPID L-2022-LLA-0056)
DATED SEPTEMBER 15, 2022

DISTRIBUTION:

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GWang, NRR
BLEhman, NRR

ADAMS Accession No.: ML22250A467

*** by email**

OFFICE	DORL/LPL2-1/PM	DORL/LPL2-1/LA	NRR/DEX/ESEB/BC(A)
NAME	JKlos	KGoldstein	BLEhman
DATE	09/06/2022	09/16/2022	9/15/2022
OFFICE	DORL/LPL2-1/BC	DORL/LPL2-1/PM	
NAME	MMarkley (SDevlin-Gill for)	JKlos	
DATE	09/09/2022	09/15/2022	

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