



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

November 9, 2021

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

SUBJECT: SURRY POWER STATION, UNITS 1 AND 2 – SUPPLEMENTAL
INFORMATION NEEDED FOR ACCEPTANCE OF PROPOSED LICENSE
AMENDMENT REQUEST – REMOVAL OF REFUELING WATER CHEMICAL
ADDITION TANK AND REPLACEMENT OF CONTAINMENT SUMP BUFFER
(EPID L-2021-LLA-0179)

Dear Mr. Stoddard:

By letter dated September 30, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21277A065), Dominion Energy Virginia submitted a license amendment request for Surry Power Station, Units, 1 and 2 (Surry). The proposed amendment would revise the Surry TSs to eliminate the Refueling Water Chemical Addition Tank (CAT) and allow the use of sodium tetraborate decahydrate (NaTB) to replace sodium hydroxide (NaOH) as a chemical additive (buffer) for containment sump pH control following a loss-of-coolant accident (LOCA). The purpose of this letter is to provide the results of the U.S. Nuclear Regulatory Commission (NRC) staff's acceptance review of this amendment request. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to complete its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant.

Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), an application for an amendment to a license (including the technical specifications) must fully describe the changes requested, and following as far as applicable, the form prescribed for original applications. Section 50.34 10 CFR addresses the content of technical information required. This section stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations.

The NRC staff has completed the acceptance review of the proposed amendments in accordance with Office of Nuclear Reactor Regulation (NRR) Office Instruction LIC-109, Revision 3 "Acceptance Review Procedures for Licensing Basis Changes," dated July 20, 2020 (ADAMS Accession No. ML ML20036C829), and determined that additional information is needed for the NRC to begin its detailed technical review. The enclosure to this letter delineates the information needed for the NRC staff to make an independent assessment regarding the acceptability of the proposed amendment in terms of regulatory requirements for the protection of public health and safety and the environment.

In order to make the application complete, the NRC staff requests that Dominion Energy Virginia supplement the application to address the information requested above within working 13 days of the date of this letter which is November 30, 2021.

If the information responsive to the NRC staff's request is not received within 13 working days of the date of this letter, the application will not be accepted for review pursuant to 10 CFR 2.101, and the NRC will cease its activities associated with the application under EPID No. L-2021-LLA-0179. If the application is subsequently accepted for review, you will be advised of any further information needed to support the NRC staff's detailed technical review by separate correspondence. If any information requested in the enclosure is available in other correspondence on the docket (e.g., seismic, Generic Letter 2004-02, etc.), please indicate where the NRC can find this related information. If the application is subsequently accepted for review, you will be advised of any further information needed to support the staff's detailed technical review by separate correspondence.

The information requested and associated time frame in this letter were discussed with Mr. Gary Miller of your staff on November 9, 2021.

If you have any questions, please contact me at (301) 415-5136.

Sincerely,

/RA/

John Klos, Project Manager
Plant Licensing Branch 2-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-280, 50-281

Enclosure:
Supplemental Information Needed

cc: Listserv

SUPPLEMENTAL INFORMATION NEEDED
LICENSE AMENDMENT REQUEST FOR
REMOVAL OF REFUELING WATER CHEMICAL ADDITION TANK AND
REPLACEMENT OF CONTAINMENT SUMP BUFFER

DOMINION ENERGY VIRGINIA

SURRY, UNIT NOS. 1 AND 2

DOCKET NO(S). 50-280, 50-281

1. A description of how the NaTB (sodium tetraborate decahydrate) will be stored, such as the number of baskets, size, detailed x-y-z location, and how they are designed to contain the NaTB while allowing access for the water to dissolve the NaTB.
2. A summary of the post-LOCA borated water sources, with a description of the boron concentrations evaluated.
3. A summary of the sources of other acids and bases included in the post-LOCA pH calculation, and reference to how they were calculated.
4. A description of the methodology and results for calculating pH and the required NaTB quantity, or the associated analysis.
5. For each case considered, a description of how input values and ranges were selected for the water and chemicals used in the calculations (e.g., water, boron, NaTB, and other applicable acids and bases).
6. An explanation for how the mass of NaTB would be measured in order to meet the proposed requirement in Technical Specification 3.4.A.4.
7. A description of the test that will be performed to verify that the NaTB in the baskets provides adequate pH adjustment, according to the proposed sampling test #4 in the license amendment submission, Table 4.1-2B, "Minimum Frequencies for Sampling Tests."
8. Proposed revisions to Final Safety Analysis Report Sections such as 6.1 (General Description), 6.2.3.3 (Chemical Additives), and 6.3.1 (Spray System), which describe the use and characteristics of sodium hydroxide as the chemical additive and are used to derive the proposed TS in accordance with Title 10 *Code of Federal Regulations* Section 50.36.
9. A reference to the current GL 2004-02, "Potential Impact of Debris Blockage On Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors," chemical effects assessment of record for Surry Units 1 and 2 that supports the license amendment's statement of reducing chemical precipitate and discussion, as appropriate, describing how this change may affect post-LOCA sump volumes.
10. General structural arrangement drawing(s) of the new containment chemical baskets documenting the basket support structure, including basket weight and basket design details.
11. Objective evidence (e.g., data, calculations, etc.) to support the statement in the license amendment that "The design loads for the baskets are generated by combining the unfactored load effects of dead loading, chemical pressure loading, and seismic loading...[the] baskets were evaluated to maintain their structural integrity during a Design Basis Earthquake event concurrent with post LOCA elevated temperature conditions." This information should indicate the applicable design code applied,

Enclosure

- applicable design loads, load combinations used for the design, a summary of computed stresses, and margins showing the structural integrity of the baskets.
12. A discussion on the high energy lines in the vicinity of the baskets, and how the baskets are protected from HELB effects (jet impingement and pipe whip) is not included.

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ADAMS Accession No. ML21307A430

***by email**

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