VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

September 15, 2022

10 CFR 50.90

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

Serial No.: 22-257
NRA/GDM: R0
Docket Nos.: 50-280/281
License Nos.: DPR-32/37

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
CORRECTION OF DOCUMENTATION ERROR IDENTIFIED IN LICENSE AMENDMENT REQUEST TO UPDATE ALTERNATIVE SOURCE TERM DOSE CONSEQUENCES ANALYSES

By letter dated March 2, 2018 (Serial No. 18-069) [ADAMS Accession No. ML18075A021], Virginia Electric and Power Company (Dominion Energy Virginia) requested amendments, in the form of changes to the Technical Specifications (TS) to Facility Operating License Numbers DPR-32 and DPR-37 for Surry Power Station (SPS) Units 1 and 2. As part of the proposed changes, the License Amendment Request (LAR) updated the alternative source term (AST) dose consequences analyses. The Nuclear Regulatory Commission (NRC) approved the LAR in SPS TS Amendments 295 and 295 for SPS Units 1 and 2, respectively, dated June 12, 2019 [ADAMS Accession No. ML19028A384].

Subsequent to the submittal of the LAR and receipt of the associated license amendments, a documentation error was identified in one of the tables included in the LAR associated with the updated steam generator tube rupture (SGTR) analysis of record (AOR). Specifically, the data provided in Table 3.4-7, *Power Available - Ruptured SG (RSG) Break Flow*, supports the SGTR with power available case. However, the flashed break flow rate data and a start time for the flow rate change included in Table 3.4-7 were subsequently determined to be incorrect. The error in Table 3.4-7 resulted from copying data tables from an earlier version of the SGTR calculation and not updating all the parameters. The incorrect values are highlighted in the table below

Table 3.4-7 Power Available - Ruptured SG (RSG) Break Flow

time	Liquid Break Flow (RCS to SG liquid)	Flashed Break (RCS to SG steam)
(hrs)	lbm/min	lbm/min
0	4970	689
0.0222	5285	114
0.0508	4518	60
0.5	0	0

The corrected Table 3.4-7 is provided below.

Corrected Table 3.4-7 Power Available - Ruptured SG (RSG) Break Flow

time	Liquid Break Flow (RCS to SG liquid)	Flashed Break (RCS to SG steam)
(hrs)	lbm/min	lbm/min
0	4970	712
0.0222	5285	107
0.0561	4518	73
0.5	0	0

Even though Table 3.4-7 included incorrect data, the updated AST dose consequences for the SGTR included in Section 3.4.6, *SGTR Analysis Results*, of the LAR were not affected by the documentation error because the correct parameters were used in the RADTRAD-NAI files that were used to run the power available cases.

In addition, as noted in the NRC safety evaluation report (SER) for SPS Amendments 295/295, *"The NRC staff compared the doses estimated by the licensee* [which were based on the correct data] *to the accident dose criteria of 25 rem at the EAB and LPZ for the pre-accident iodine spike analysis and 2.5 rem at the EAB and LPZ for the concurrent iodine spike analysis as stated in RG 1.183 and SRP 15.0.1, and to the results estimated in the NRC staff independent calculations, which were performed to ensure a thorough understanding of the licensee's assumptions and methods. Specifically, the NRC staff found that the inputs and assumptions used by the licensee are reasonable and that the licensee's dose estimates, which are comparable to those calculated by the NRC staff, are below the regulatory limits. The NRC staff finds that the licensee demonstrated that there is reasonable assurance that the estimates of the total effective dose equivalent due to a postulated design-basis SGTR comply with the accident dose criteria in RG 1.183, SRP 15.0.1, and the radiation dose limits 10 CFR 50.67, which are 25 rem at the EAB and LPZ and 5 rem in the control room. Therefore, the staff finds the proposed SGTR analysis changes acceptable."*

Therefore, the NRC SER conclusion regarding the acceptability of the SPS updated AST SGTR dose consequences analysis was based on: 1) reasonable inputs and assumptions that resulted in the dose consequences that Dominion Energy Virginia calculated being less than the regulatory limits, and 2) the comparable dose estimates independently calculated by the NRC to validate Dominion Energy Virginia's methods and assumptions. The corrected input for the ruptured SG flashed break flow for the power available case remains reasonable because the corrected input is not significantly different than the original values, as shown in the Tables above. Consequently, the conclusions of the NRC SER are not affected.

Conclusion

Dominion Energy Virginia performed the updated AST dose consequences analysis for the SGTR event using the correct data; therefore, the analysis results presented in the March 2, 2018, LAR are unaffected by the documentation error and remain accurate, unchanged and within regulatory limits. In addition, since the NRC performed an independent dose consequences calculation of the SGTR event with acceptable analysis results comparable to those calculated by Dominion Energy Virginia, it is concluded the NRC determination provided in their June 12, 2019, SER for SPS TS Amendments 295 and 295 for SPS Units 1 and 2, respectively, regarding the acceptability of the dose consequences analyses included in the LAR is likewise unaffected.

Should you have any questions or require additional information, please contact Mr. Gary D. Miller at (804) 273-2771.

Respectfully,

James E. Holloway
Vice President – Nuclear Engineering and Fleet Support

Commitments contained in this letter: None

Kathryn Hill Barret
Notary Public
Commonwealth of Virginia
Reg. No. 7905256
My Commission Expires January 31, 2024

COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Mr. James E. Holloway, who is Vice President – Nuclear Engineering and Fleet Support, of Virginia Electric and Power Company. He has affirmed before me that he is duly authorized to execute and file the foregoing document in behalf of that company, and that the statements in the document are true to the best of his knowledge and belief.

Acknowledged before me this 15th day of September, 2022.

My Commission Expires: January 31, 2024.

Kathryn H. Barret
Notary Public

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