



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

April 20, 2023

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

SUBJECT: REQUESTS FOR CONFIRMATION OF INFORMATION FOR THE  
ENVIRONMENTAL REVIEW OF THE NORTH ANNA POWER STATION, UNITS  
1 AND 2, SUBSEQUENT LICENSE RENEWAL APPLICATION (EPID NUMBER:  
L-2020-SLE-0000) (DOCKET NUMBERS: 50-338 AND 50-339)

Dear Daniel Stoddard:

By letters dated August 24, 2020, (Agencywide Documents Access and Management System ML20246G703), Dominion Energy submitted an application for subsequent license renewal of Renewed Facility Operating License Nos. NPF-4 and NPF-7 for the North Anna Power Station, Unit Nos. 1 and 2 (North Anna) to the U.S. Nuclear Regulatory Commission (NRC) pursuant to section 103 of the Atomic Energy Act of 1954, as amended, and part 54 of title 10 of the *Code of Federal Regulations*, "Requirements for renewal of operating licenses for nuclear power plants."

During the week of March 6, 2023, the NRC staff conducted an environmental audit of Dominion Energy's records to confirm information submitted in the North Anna license renewal application. During the audit, the staff reviewed documents that contain information which will likely be used in the Site-specific Environmental Impact Statement (SEIS) that supplement the 2021 draft Supplemental EIS (87 FR 68522). To the best of the staff's knowledge, this information is not on the docket or accessible in the public domain. Any information used to reach a conclusion in the SEIS must be included on the docket by the applicant. Therefore, we request that you submit confirmation that the information gathered during the audit and listed in the enclosure is correct or provide the associated correct information.

These requests for confirmation of information were discussed with Ellery Baker of your staff, and a mutually agreeable date for the response is within 30 days from the date of this letter.

If you have any questions on this matter, please contact Tam Tran via email at [Tam.Tran@nrc.gov](mailto:Tam.Tran@nrc.gov).

Sincerely,



Signed by Tran, Tam  
on 04/20/23

Tam Tran, Project Manager  
Environmental Review License Renewal Branch  
Division of Rulemaking, Environment,  
and Financial Support  
Office of Nuclear Material Safety  
and Safeguards

Docket Nos. 50-338 and 50-339

Enclosure:  
As stated

cc w/encl.: Distribution via Listserv

SUBJECT: REQUESTS FOR CONFIRMATION OF INFORMATION FOR THE ENVIRONMENTAL REVIEW OF THE NORTH ANNA POWER STATION, UNITS 1 AND 2, SUBSEQUENT LICENSE RENEWAL APPLICATION (EPID NUMBER: L-2020-SLE-0000) (DOCKET NUMBERS: 50-338 AND 50-339)

DATED: April 20, 2023

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**\*via email**

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NORTH ANNA POWER STATION, UNITS 1 AND 2  
SUBSEQUENT LICENSE RENEWAL APPLICATION  
REQUESTS FOR CONFIRMATION OF INFORMATION  
ENVIRONMENTAL REVIEW

Regulatory Basis:

License renewal requirements are specified in title 10 of the *Code of Federal Regulations* (10 CFR) part 54, "Requirements for Renewal of Operating Licenses for Nuclear Power Plants." Licensees are required by 10 CFR 54.23 to submit an Environmental Report (ER) that complies with the applicable requirements in 10 CFR part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," as part of the subsequent license renewal application. The U.S. Nuclear Regulatory Commission's (NRC) regulations at 10 CFR part 51, which implement Section 102(2) of the National Environmental Policy Act (NEPA) of 1969, include requirements for applicants to provide information as may be useful in aiding the NRC staff in complying with NEPA. The NRC staff is required to prepare a Site-specific Environmental Impact Statement (SEIS) that supplements the 2021 draft Supplemental Environmental Impact Statement (Supplement 7, second renewal) to NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants." Review guidance for the staff is provided in NUREG-1555, Supplement 1, Revision 1, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants: Supplement 1 – Operating License Renewal."

Request for Confirmation of Information:

During the audit, the staff (a) reviewed several documents on the applicant electronic information portal (Agencywide Documents Access and Management System (ADAMS) ML20269A465), in response to the staff audit needs (ML23062A466) and (b) interviewed the applicant personnel for information that will likely be used in the SEIS. To the best of the staff's knowledge, this information is not on the docket or accessible from the public domain. The NRC staff requests that the applicant submits confirmation that the information gathered from the audit and listed below is correct or provides the associated corrected information.

**GEN-2 RCI:** Please confirm that there have been no unplanned releases of radioactive materials (unplanned/inadvertent radioactive liquid or gaseous releases) since Dominion's most recent environmental request for additional information (RAI) responses dated February 22, 2021 (ML21053A433).

**WM-2 (SWR-3) RCI:** Dominion's September 28, 2022, Environmental Report (ER), Supplement 1 analysis of Category 1 Issue Nos. 15, 24, 32, 33, 34, 39, 54 and 55 describes a warning letter for a missed total suspended solids (TSS) monitoring requirement at Outfall 103. During the March 2023 environmental audit, the NRC staff reviewed a warning letter from the Virginia Department of Environmental Quality and Dominion Energy's response to the warning letter. It is the NRC staff's understanding that the sample was taken at Outfall 103, but the analysis of the sample was delayed beyond the 7-day holding time, which invalidated the results for Outfall 103 for TSS. As discussed during the March audit, North Anna's sampling procedure was updated to ensure that: (a) the isotopic analysis report is transmitted with the sample to avoid a potential delay in analysis, (b) laboratory reports are reviewed promptly, and (c) resampling is

Enclosure

conducted if samples exceed the allowable holding time. Please confirm that the NRC staff understanding of the missed TSS monitoring requirement, associated letters, and site corrective actions are correct.

**AQ-2 RCI:** North Anna's Virginia Pollutant Discharge Elimination System (VPDES) permit limits metals, including zinc, copper, and iron, in wastewater discharges, including stormwater. From information gathered during the environmental site audit, the NRC staff understands that Dominion has reported no VPDES permit violations related to limits on discharge of metals within the past five years. Please confirm this understanding is correct.

**MBH-1 RCI:** From information gathered during the environmental site audit, the NRC staff understands that Dominion has observed no harmful algal blooms in the Waste Heat Treatment Facility (WHTF) since those described in Dominion's February 22, 2021, response to NRC request for additional information on the subsequent license renewal (SLR) environmental review (ML21053A433; p. 10-11). Please confirm this understanding is correct.

**GWR-1 RCI:** During the site audit on March 7, 2023, Dominion updated table E4.5-2a and table E4.5-2b of the North Anna Power Station (NAPS) SLR ER Supplement 1 with the 2022 groundwater withdrawal data as shown the tables below. Please confirm that data shown below are correct.

Table E4.5-2a NAPS Yearly Groundwater Withdrawal Summary

| Year      | Monthly Maximum |                  | Monthly Average |                  | Monthly Minimum |                  | Yearly Total |          |
|-----------|-----------------|------------------|-----------------|------------------|-----------------|------------------|--------------|----------|
|           | MGM             | gpm <sub>a</sub> | MGM             | gpm <sub>a</sub> | MGM             | gpm <sub>a</sub> | MGY          | gpd      |
| 2022      | 0.27            | 6.13             | 0.17            | 3.77             | 0.05            | 1.14             | 1.99         | 5,443.59 |
| 2013-2022 | 0.50            | 11.57            | 0.22            | 4.99             | 0.04            | 1.01             | 2.63         | 7,196.09 |

MGY = millions of gallons per year

MGM = millions of gallons per month

gpd = gallons per day

gpm<sub>a</sub> = average gallons per minute for the month

Table E4.5-2b NAPS Monthly Groundwater Withdrawal Summary

| Month        | Groundwater Wells (MGM) |     |       |       |       | Monthly Total |                  |
|--------------|-------------------------|-----|-------|-------|-------|---------------|------------------|
|              | NANIC                   | #4  | #6    | #7    | #8    | MGM           | gpm <sub>a</sub> |
| January-22   | 0.008                   | (a) | 0.026 | 0.000 | 0.017 | 0.051         | 1.136            |
| February-22  | 0.008                   | (a) | 0.074 | 0.000 | 0.007 | 0.088         | 2.190            |
| March-22     | 0.008                   | (a) | 0.253 | 0.005 | 0.000 | 0.266         | 5.968            |
| April-22     | 0.008                   | (a) | 0.144 | 0.000 | 0.000 | 0.152         | 3.516            |
| May-22       | 0.010                   | (a) | 0.131 | 0.000 | 0.000 | 0.141         | 3.165            |
| June-22      | 0.011                   | (a) | 0.163 | 0.001 | 0.003 | 0.177         | 4.104            |
| July-22      | 0.013                   | (a) | 0.178 | 0.003 | 0.000 | 0.193         | 4.326            |
| August-22    | 0.012                   | (a) | 0.197 | 0.028 | 0.000 | 0.236         | 5.291            |
| September-22 | 0.011                   | (a) | 0.225 | 0.028 | 0.000 | 0.265         | 6.127            |

|             |       |     |       |       |       |       |       |
|-------------|-------|-----|-------|-------|-------|-------|-------|
| October-22  | 0.011 | (a) | 0.212 | 0.005 | 0.000 | 0.227 | 5.092 |
| November-22 | 0.011 | (a) | 0.094 | 0.001 | 0.000 | 0.106 | 2.442 |
| December-22 | 0.012 | (a) | 0.072 | 0.000 | 0.000 | 0.084 | 1.886 |

(a) Not installed, not operational, or abandoned  
gpm<sub>a</sub> = average gallons per minute for the month

**SWR-1 (AQ-2) RCI:** During site audit on March 7, 2023, Dominion stated that its VPDES permit has been administratively extended based on the terms and conditions of the existing permit. A confirmation of the extension was provided in the correspondence from the Virginia Department of Environmental Quality dated April 3, 2019. Please confirm that the above statements regarding Dominion's VPDES permit are correct.

**SWR-2 (SWR-5) RCI:** During site audit on March 7, 2023, Dominion updated table E4.5-1a and table E4.5-1b of the NAPS SLR ER Supplement 1 with the 2022 surface water withdrawal data as shown below. Please confirm that data shown below are correct.

Table E4.5-1a NAPS Yearly Surface Water Withdrawal Summary

| Year      | Monthly Maximum |                  | Monthly Average |                  | Monthly Minimum |                  | Yearly Total |          |
|-----------|-----------------|------------------|-----------------|------------------|-----------------|------------------|--------------|----------|
|           | MGM             | gpm <sub>a</sub> | MGM             | gpm <sub>a</sub> | MGM             | gpm <sub>a</sub> | MGY          | MGD      |
| 2022      | 72,784.00       | 1,630,466        | 55,315.46       | 1,262,203        | 27,678.00       | 747,693          | 663,785.46   | 1,818.59 |
| 2013-2022 | 74,653.18       | 1,672,338        | 56,091.11       | 1,278,346.6      | 23,479.88       | 525,983          | 673,093.38   | 1,843.08 |

MGY = millions of gallons per year  
MGM = millions of gallons per month  
gpm<sub>a</sub> = average gallons per minute for the month (rounded to nearest gpm)

Table E4.5-1b NAPS Monthly Surface Water Withdrawal Summary

| Month        | Surface Water Withdrawals (MGM) |                   |                   |        |            | Total     |                  |
|--------------|---------------------------------|-------------------|-------------------|--------|------------|-----------|------------------|
|              | North Anna Dam                  | Lake Anna Unit #1 | Lake Anna Unit #2 | NA3 CW | Mini-SY CW | MGM       | gpm <sub>a</sub> |
| January-22   | 1709.91                         | 19876.00          | 20638.00          | (a)    | 0.00       | 42,223.91 | 945,876.12       |
| February-22  | 2001.55                         | 19462.00          | 19872.00          | (a)    | 0.00       | 41,335.55 | 1,025,187.25     |
| March-22     | 0.00                            | 24102.00          | 3576.00           | (a)    | 0.00       | 27,678.00 | 620,026.88       |
| April-22     | 0.00                            | 29304.00          | 24383.00          | (a)    | 0.00       | 53,687.00 | 1,242,754.63     |
| May-22       | 0.00                            | 35899.00          | 35670.00          | (a)    | 0.00       | 71,569.00 | 1,603,248.21     |
| June-22      | 0.00                            | 33898.00          | 34479.00          | (a)    | 0.00       | 68,377.00 | 1,582,800.93     |
| July-22      | 0.00                            | 36389.00          | 35840.00          | (a)    | 0.00       | 72,229.00 | 1,618,033.15     |
| August-22    | 0.00                            | 36716.00          | 36068.00          | (a)    | 0.00       | 72,784.00 | 1,630,465.95     |
| September-22 | 0.00                            | 24208.00          | 34350.00          | (a)    | 0.00       | 58,558.00 | 1,355,509.26     |
| October-22   | 0.00                            | 11627.00          | 34411.00          | (a)    | 0.00       | 46,038.00 | 1,031,317.20     |
| November-22  | 0.00                            | 28293.00          | 28772.00          | (a)    | 0.00       | 57,065.00 | 1,320,949.07     |
| December-22  | 0.00                            | 26228.00          | 26013.00          | (a)    | 0.00       | 52,241.00 | 1,170,273.30     |

a. 2019 to 2021 water usage reports designate this withdrawal the "Mini-Switchyard Construction". In previous years, it was designated as "Unit 3 Construction"  
b. Water usage reports designate the withdrawals for NAPS as "Lake Anna Unit #1" and "Lake Anna Unit #2"  
gpm<sub>a</sub> = average gallons per minute for the month

**SWR-7 RCI:** During the site audit on March 7, 2023, Dominion provided a copy of the NAPS Stormwater Pollution Prevention Plan (SWPPP) updated in May 2022. Section 7.1 in the SWPPP lists a non-polychlorinated biphenyls transformer oil spill on November 11, 2022. In NAPS SLR ER supplement section E4.5.11.2, a similar spill is described that occurred in 2021. Please confirm that (1) the two spills are the same event, (2) the date of the spill noted to occur on November 11, 2022, in the SWPPP contains an error, and (3) the year in that date should be 2021.

**SWR-8 (New) RCI:** During the site audit on March 7, 2023, Dominion provided the following update/correction to the text in NAPS SLR ER section 3.6.1.1, *Potential for Flooding*:

“Based on Federal Emergency Management Agency (FEMA) data, the majority of the NAPS property is located within Zone X, outside the 0.2 percent annual chance floodplain (500-year flood level). Small areas along the shores and canals have been designated as within the 1 percent annual chance (100-year flood level, Zone AE) floodplain with base flood elevations of 255 feet (NAVD88) (Figure 3.6-2). Areas of moderate flooding between the 100-year and 500-year floods are not mapped by FEMA in this area. (FEMA 2019)”

Please confirm that the text quoted above is accurate and correct.

**AQN-3 RCI:** During the environmental audit, Air Quality and Noise breakout session, and in response to information need AQN-3, Dominion stated that field tests concerning ozone and nitrogen oxides emissions generated by North Anna’s 34.5 kV and 500 kV in-scope transmission lines have not been conducted? Confirm that field tests concerning ozone and nitrogen oxides emissions generated by North Anna’s 34.5 kV and 500 kV in-scope transmission lines have not been conducted.

**AQN-4 RCI:** During the environmental audit, Air Quality and Noise breakout session, and in response to information need AQN-4, Dominion stated that it has not received any notices of violation since 2019 associated with North Anna’s State Operating Permit (Air Permit No. 40726)? Confirm that Dominion has not received any notices of violation since 2019 associated with North Anna’s State Operating Permit.

**ALT-1 RCI:** Please confirm that during the March 8, 2023, Alternatives breakout session, Dominion Energy addressed the continued validity of the technical bases presented in their August 2020 ER (ML20246G698) and associated correspondence used to support the identification of reasonable replacement power alternatives to renewing the operating licenses for NAPS Units 1 and 2. Specifically, Dominion Energy confirmed the bases for including advanced nuclear generation as reasonable alternatives. Dominion Energy also confirmed the basis for considering natural gas and other fossil fuel generation as unreasonable for replacement of NAPS. Dominion Energy further indicated that their planning includes substantial additions of solar, wind, and battery resources, and that their projected goal for net zero carbon emissions in 2045 assumes that NAPS is relicensed.

**CI-1 RCI:** In association with the March 8, 2023, Cumulative Impacts breakout session, Dominion provided information on three reasonably foreseeable projects being planned at NAPS that updated the information previously provided in Dominion Energy’s February 22, 2021, correspondence (ML21053A433, pgs. 2-8) regarding NRC’s RAI (ML21028A390). Please confirm that the status of each of the following projects is correct, and that no additional projects have been identified in the interim:

- Cyber Security Testing Facility – construction ongoing; completion targeted July 2023.
- Wastewater Treatment Plant Replacement Project – construction ongoing; completion targeted August 2023.
- Main Generator Storage Building – Dominion Energy has subsequently determined that the Main Generator Storage Building would not be needed at North Anna, and that replacement main generators are planned to be stored in the current Generator Rewind Building as needed. Target replacement outages are 2030 for Unit 1 and 2031 for Unit 2.

### **Acronyms and Abbreviations**

|       |   |
|-------|---|
| ALT   | Alternatives                                    |
| AQ    | Aquatic Resource                                |
| AQN   | Air Quality and Noise                           |
| CI    | Cumulative Impacts                              |
| ER    | Environmental Report                            |
| GEN   | General   |
| gpd   | Gallons per day                                 |
| gpma  | Average gallons per minute                      |
| GWR   | Groundwater Resource                            |
| kV    | Kilo volt                                       |
| MBH   | Micro Biological Hazard                         |
| MGM   | Millions of gallons per month                   |
| MGY   | Millions of gallons per year                    |
| NAPS  | North Anna Power Station                        |
| NEPA  | National Environmental Policy Act               |
| NRC   | Nuclear Regulatory Commission                   |
| PCB   | polychlorinated biphenyls                       |
| RCI   | Request for Confirmation of Information         |
| SEIS  | Site-specific Environmental Impact Statement    |
| SLR   | Subsequent License Renewal                      |
| SWPPP | Stormwater Pollution Prevention Plan            |
| SWR   | Surface Water Resource                          |
| TSS   | Total suspended solids                          |
| VPDES | Virginia Pollutant Discharge Elimination System |
| WHTF  | Waste Heat Treatment Facility                   |
| WM    | Waste Management                                |