

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

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United States Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555-0001

Serial No.: 21-041  
NRA/DEA: R0  
Docket Nos.: 50-338/339  
License Nos.: NPF-4/7

**VIRGINIA ELECTRIC AND POWER COMPANY**  
**NORTH ANNA POWER STATION (NAPS) UNITS 1 AND 2**  
**SUBSEQUENT LICENSE RENEWAL APPLICATION (SLRA)**  
**RESPONSE TO NRC REQUESTS FOR CONFIRMATION OF INFORMATION**  
**FOR THE ENVIRONMENTAL REVIEW**

References:

1. Letter from Virginia Electric and Power Company to the US Nuclear Regulatory Commission dated August 24, 2020 (Serial No. 20-115), "Virginia Electric and Power Company, North Anna Power Station Units 1 and 2, Application for Subsequent Renewed Operating Licenses," [Agencywide Documents Access and Management System (ADAMS) Accession No. ML20246G697]
2. Letter from Tam M. Tran of the US Nuclear Regulatory Commission to Daniel G. Stoddard of Virginia Electric and Power Company dated January 22, 2021, "Requests for Confirmation of Information for the Environmental Review of the North Anna Power Station, Units 1 and 2, Subsequent License Renewal Application," [ADAMS Accession No. ML21012A341]

In Reference 1, Virginia Electric and Power Company (Dominion Energy Virginia) submitted the SLRA for NAPS Units 1 and 2. In Reference 2, the NRC provided requests for confirmation of information (RCIs) the staff will likely use in the Supplemental Environmental Impact Statement (SEIS), but which has not been previously docketed. The NRC RCIs and Dominion Energy Virginia's confirmation of each RCI are provided in the enclosure.



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**Enclosure**

**RESPONSE TO NRC REQUESTS FOR CONFIRMATION OF INFORMATION  
FOR THE ENVIRONMENTAL REVIEW OF THE NAPS SLRA**

**Virginia Electric and Power Company  
(Dominion Energy Virginia)  
North Anna Power Station Units 1 and 2**

**Response to NRC Requests for Confirmation of Information for the  
Environmental Review of the NAPS SLRA**

**North Anna Power Station, Units 1 and 2  
Subsequent License Renewal Application**

By letter dated August 24, 2020, (Agencywide Documents Access and Management System Accession No. 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 December 1, 2020, 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 Supplemental Environmental Impact Statement (SEIS). 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, in a letter dated January 22, 2021, the NRC staff transmitted fourteen requests for confirmation of information (RCIs) gathered during the environmental audit noted above. The NRC RCIs and Dominion Energy Virginia's confirmation of each RCI are provided below.

**REQUESTS FOR CONFIRMATION OF INFORMATION (RCIs)**

**Groundwater**

Specific Regulatory Basis: ESRP Section 3.4 (II) and Section 4.4 (II) in accordance with 10 CFR 51.53(c)(ii)(P)

**RCI No. 1:**

*Based on the staff's review of the ER, groundwater sampling information in the North Anna 2020 "Radioactive Effluent Report" and, the Haley and Aldrich 2015 and 2020 reports, please confirm:*

*Monitoring Well PZ-3 tritium concentrations continue to remain approximately at the Minimum Detectable Activity dependent on the elevation of the water table. In the area PZ-3, leaching from historical tritium releases trapped or perched in porous vadose zone soils is likely to occur when these layers become saturated by relatively higher water table elevations.*



**Dominion Response:**

This information has been confirmed to be correct as stated, with the clarification that PZ-3 tritium concentrations continue to remain approximately at Lake Anna tritium levels (<5,000 pCi/L), not MDA.

**RCI No. 2:**

*Based on the staff's review of the ER, groundwater sampling information in the North Anna 2020 "Radioactive Effluent Report" and, the Haley and Aldrich 2015 and 2020 reports, please confirm:*

*Recent sampling confirms that there was no presence of boron in the water in the pipe tunnel water, nor was there boron in the GWP-18 well sample. Sampling for boron was conducted to rule out a pipe leak within the tunnel. Based on field investigations, there was no indication that a pipe within the pipe tunnel was leaking. Likely associated with the pipe tunnel concrete leaching tritium to the ground as there was no indication of a pipe leak, elevated GWP-18 concentration remediation activity included preventing surface and rain water from entering the pipe tunnel causing leaching of tritium from the concrete by sealing off external access points in the east-west tunnel section along the Waste Disposal building (also known as the BRT tunnel). Subsequent to removal of excess water from the pipe tunnel, GWP-18 concentrations have decreased to concentrations consistent with Lake Anna background levels. The pipe tunnel is now maintained in a dry condition due to the improvement efforts conducted during 2020 (i.e., sealing to prevent surface or rain water infiltration) minimizing any water seepage from the tunnel to groundwater.*

**Dominion Response:**

This information has been confirmed to be correct as stated, with the clarification that documented evidence of boron sampling in the pipe tunnel water and GWP-18 is not available. However, during the investigation, sampling of the pipe tunnel water and GWP-18 was conducted for radionuclides other than tritium. No radionuclides other than tritium were detected, which provided an alternate means (e.g., other than sampling for boron) to rule out a pipe leak in the tunnel.

**Noise**

**RCI No. 3:**

*Based on the review of Section 3.4 of the ER and the ER states that North Anna Power Station received one noise complaint for the five-year period from 2013- 2017, please confirm:*

*Since 2017, NAPS has not received noise complaints.*

**Dominion Response:**

This information has been confirmed to be correct as stated.

Waste Management and Radiation Protection

**RCI No. 4:**

*Based on the review of Section 3.6.4.2.1 of the ER, between 2012 and 2019, there have been no inadvertent radioactive liquid releases. Please confirm:*

*There have not been any reportable unplanned releases of radioactive materials which would trigger a notification requirement since the ER was written.*

**Dominion Response:**

This information has been confirmed to be correct as stated.

**RCI No. 5:**

*Based on the review of section 3.6.4.2.2 of the ER, site records for the most recent 7 years (2013–2019), indicate there have been no inadvertent nonradioactive releases that would not be classified as an incidental spill as defined by OSHA [Office of Safety and Health Administration]. Please confirm:*

*There has not been any reportable inadvertent release which would trigger a notification requirement since the ER was written.*

**Dominion Response:**

This information has been confirmed to be correct as stated.

**RCI No. 6:**

*Based on the staff's review of Section 9.5.3.6 of the ER, North Anna is subject to the reporting provisions of Title 40 of the Code of Federal Regulations Part 110 as it relates to the discharge of oil in such quantities as may be harmful pursuant to Section 311(b)(4) of the Federal Water Pollution Control Act. Any discharges of oil in such quantities that may be harmful to the public health or welfare or the environment must be reported to the National Response Center. For the 7-year period of 2012-2018 there were no reportable spills. Please confirm:*

*There have not been any reportable spills which would trigger this notification requirement since the ER was written.*

**Dominion Response:**

This information has been confirmed to be correct as stated.

**RCI No. 7:**

*Based on the staff's review of Section 9.5.5.12.6 of the ER, North Anna is subject to the reporting provisions of State Water Control Law §62.1-44.34:19. This reporting provision requires that any release of regulated substance from an underground storage tank containing a petroleum product be reported to the VDEQ [Virginia Department of Environmental Quality]. The only reportable spill occurring between 2013 and 2018 was an underground fuel oil leak from the leaking 2H B fuel oil feed line which occurred in December 2016 in which the amount of fuel oil that leaked was not quantified. Please confirm:*

*There have not been any reportable spills which would trigger this notification requirement since the ER was written.*

**Dominion Response:**

This information has been confirmed to be correct as stated.

**RCI No. 8:**

*Based on the staff's review of the ER information, please confirm:*

*Regarding the Radiation Protection Program (overview) with emphasis on the as low as reasonably achievable (ALARA) program to control worker radiation exposure (annual dose goals and status), there are currently no proposed changes or upgrades to the program being considered during the current or subsequent license renewal term.*

**Dominion Response:**

This information has been confirmed to be correct as stated.

**RCI No. 9:**

*Based on the staff's review of the ER for the radioactive solid waste program information, please confirm:*

*Concerning how the plant plans handle low-level radioactive waste (Class A, B, and C, mixed waste, and spent nuclear fuel) during the license renewal term (onsite storage, potential expansion of storage facilities, and disposal options), there are currently no proposed changes or upgrades to the radioactive solid waste program being considered during the current or subsequent license renewal term.*

**Dominion Response:**

This information has been confirmed to be correct as stated.

**RCI No. 10:**

*Based on the staff's review of the ER for radioactive gaseous and liquid effluents information, please confirm:*

*Concerning how the plant processes radioactive effluents to maintain radiation doses to the public to levels that are ALARA, there are currently no proposed changes or upgrades to the program being considered during the current or subsequent license renewal term.*

**Dominion Response:**

This information has been confirmed to be correct as stated.

Alternatives

**RCI No. 11:**

*Based on the staff's review of Section E.2.6 of the ER, the stated Units 1 and 2 replacement power value (1,672 MWe) does not appear to reflect the full generation capacity of the plant. Please confirm:*

*The basis for the replacement power value for NAPS Units 1 and 2 presented in Section E.2.6 of the NAPS ER (1,672 MWe) is Figure 5.3.1 of Dominion's 2018 Integrated Resource Plan (ER reference Dominion 2018a). This 1,672 MWe value only reflects Dominion Energy's ownership portion of the plant's total licensed capacity of approximately 1,892 MWe, and not the approximately 11.6 percent portion under the ownership of the Old Dominion Electric Cooperative.*

**Dominion Response:**

This information has been confirmed to be correct as stated.

Surface Water

**RCI No. 12:**

*Based on the staff's review of the ER, please confirm:*

*Dominion has received no documented Notices of Violation; nonconformance notifications; or related infractions from regulatory agencies associated with permitted effluent discharges, sanitary sewage systems, groundwater or soil contamination; as well as any such notifications involving spills, leaks, and other inadvertent releases (e.g., petroleum products, chemicals, or radionuclides) since 2019.*

**Dominion Response:**

This information has been confirmed to be correct as stated.

**RCI No. 13:**

*Based on the staff's review of the ER, please confirm:*

*Concerning Commonwealth's regulations governing the issuance of water protection permits, no Virginia water protection permit is required and no new Clean Water Act §401 water quality certification is necessary for a facility's surface water withdrawals that were in existence as of July 1, 1989. Further, no Virginia water protection is required for the discharge of wastes into surface waters if the facility's discharges are otherwise subject to a Virginia Pollutant Discharge Elimination System permit, as is the case for North Anna. Accordingly, Dominion is not required to maintain, and does not possess, a separate Virginia water protection permit for operation of North Anna, Units 1 and 2.*

**Dominion Response:**

This information has been confirmed to be correct as stated, with the editorial clarification in square brackets added to the second sentence of RCI No. 13 as indicated below:

*Further, no Virginia water protection [permit] is required for the discharge of wastes into surface waters if the facility's discharges are otherwise subject to a Virginia Pollutant Discharge Elimination System permit, as is the case for North Anna.*

Additionally, it should be noted that on April 9, 2012, VDEQ issued Virginia Water Protection (VWP) permit 10-2001, which incorporated modifications and additions to account for the additional water withdrawal associated with the proposed North Anna Unit 3. Conditions related to releases from the Lake Anna Dam that are in the existing *Virginia Pollutant Discharge Elimination System* (VPDES) permit for North Anna Units 1 and 2 (Permit No. VA0052451) are duplicated and included in VWP permit 10-2001. The VWP permit states that the VPDES permit conditions shall govern releases from the dam until such time as Dominion Energy notifies VDEQ of its intent to permanently raise the target pool elevation of Lake Anna three inches to support Unit 3. In a letter dated September 16, 2020<sup>1</sup>, VDEQ concluded that VWP permit 10-2001, "is the commonwealth's §401 Certification for the North Anna Power Station."

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<sup>1</sup> Letter from Virginia Electric and Power Company to NRC, "North Anna Power Station (NAPS) Units 1 and 2 Subsequent License Renewal Application (SLRA) Requested Documents in Response to Environmental Audit," January 25, 2021, Agencywide Documents Access and Management System (ADAMS) Accession No. ML21033A301 (included as Enclosure 4, Attachment 3).

Land Use

**RCI No. 14:**

*Based on the staff's review of Section E3.1.4, please confirm that the following is still true:*

*Dominion is not pursuing developmental activities of and has made no decision to proceed with the construction of NAPS Unit 3.*

**Dominion Response:**

This information has been confirmed to be correct as stated.