

From: Gillespie, Joy <Gillespie.Joy@epa.gov>
Sent: Tuesday, October 12, 2021 5:06 PM
To: Tran, Tam
Subject: [External_Sender] NUREG-1437, Supplement 7, Second Renewal, draft -EPA's comments on North Anna DSEIS
Attachments: 2021-10-12 EPA Comments DSEIS North Anna PS ReLicensing.pdf

Dear Mr. Tran,

Thank you for providing EPA with the opportunity to review the North Anna Power Station Relicensing Draft Supplemental Environmental Impact Statement. Attached are EPA's comments on the study for your review and consideration. Please feel free to reach out to me if you have any questions or concerns.

Thanks again,
Joy

Joy M. Gillespie, Life Scientist
office: 215.814.2793

Office of Communities, Tribes & Environmental Assessment
National Environmental Policy Act (NEPA)
U.S. EPA Region III
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**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029**

October 12, 2021

Tam Tran
U.S. Nuclear Regulatory Commission (NRC)
Office of Nuclear Reactor Regulation
Mail Stop T-4B72
Washington, DC 20555-0001

Re: NUREG-1437, Supplement 7, Second Renewal
License Renewal of North Anna Power Station, Units 1 and 2, Louisa and Spotsylvania
County, VA, Draft Supplemental Environmental Impact Statement, CEQ# 20210125

Dear Mr. Tran:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

The Draft Supplemental Environmental Impact Statement (DSEIS or Study) analyzes the potential environmental impacts associated with Dominion Energy Virginia (Dominion) application requesting subsequent license renewal for the North Anna Power Station, Units 1 and 2 (North Anna) located in Louisa, Virginia, and the reasonable alternatives to that action. The North Anna Unit 1 current operating license (NPF-4) expires at midnight on April 1, 2038; the North Anna Unit 2 current operating license (NPF-7) expires at midnight on August 21, 2040. In its application, Dominion requested license renewal for a period of 20 years beyond the dates when the current operating licenses expire, to 2058 for North Anna Unit 1, and to 2060 for North Anna Unit 2.

The DSEIS analyzed the following alternatives: the No-Action Alternative, the Replacement Power Alternative consisting of new nuclear (small modular reactor or SMR) alternative or a combination alternative of solar photovoltaic, offshore wind, new nuclear 12 (SMR), and demand-side management, and the Proposed Action Alternative. Other alternatives considered but eliminated were the Solar Power Alternative, the Wind Power Alternative, the Biomass Alternative, the Demand-side Management Alternative, the Hydroelectric Power Alternative, the Geothermal Alternative, the Wave and Ocean Energy Alternative, the Municipal Solid Waste-Fire Power Alternative, the Natural Gas-Fired Power Alternative, Petroleum-fired Power Alternative, the Coal-Fired Power Alternative, the Fuel Cells Alternative, the Purchased Power Alternative, and the Delayed Retirement of Other Generating Facilities Alternative.

EPA appreciates the thoroughness of the alternative considerations in the draft SEIS; however, EPA identified concerns in the analysis that EPA recommends be addressed in the Final Supplemental Environmental Impact Statement (FSEIS). The attached Detailed Comments include but are not limited to recommendations regarding aquatic resources, greenhouse gas emissions, and environmental justice.

Thank you for the opportunity to review this project and for consideration of our enclosed recommendations. EPA looks forward to the receipt and review of the FSEIS. We would welcome the opportunity to discuss any of our comments further. Please feel free to contact me at 215-814-3402 or Nevshehirlian.stepan@epa.gov. The Region 3 staff contact for this project is Joy Gillespie; she can be reached at (215) 814-2793.

Sincerely,

Stepan Nevshehirlian
Environmental Assessment Branch Chief
Office of Communities, Tribes and
Environmental Assessment

Enclosure

Enclosure
Detailed Comments for Draft Supplemental Environmental Impact Statement
North Anna Power Station Relicensing

EPA has the following recommendations for consideration in the development of the final EIS:

Purpose and Need

EPA understands the proposed action is to provide an option that allows for power generation capabilities beyond the terms of the current nuclear power plant operating licenses to meet future system generating needs. However, the DSEIS does not clearly explain why the permit relicensing DSEIS is prepared nearly 20 years before the permits expire (North Anna Unit 1, April 1, 2038; North Anna Unit 2, August 21, 2040). Due to the long-time frame between evaluating the potential environmental impacts associated the action and when the proposed action will occur, EPA believes the DSEIS would benefit from a more detailed explanation for why the DSEIS is considered nearly 20 years before commencement of the action.

Alternatives

The DSEIS states alternatives were dismissed due to technical, resource availability, or commercial limitations that currently exist and that the NRC staff believes are likely to still exist when the current North Anna licenses expire. As technologies continue to evolve in capabilities and cost, EPA recommends, due to the advance nature of the DSEIS, NRC and Dominion conduct a re-evaluation of conditions before commencement of the proposed action. New information may be available, and other alternatives or combination of alternatives may be more commercially viable. Furthermore, a re-evaluation may capture unforeseen area population growth or additional stressors on the air or water resources that may not have been accounted for in the DSEIS.

Aquatic Resources

EPA recognizes the National Pollutant Discharge Elimination System (NPDES) permitting authority, Virginia Department of Environmental Quality (VADEQ), has made an impingement best technology available (BTA) determination under CWA Section 316 (b) in accordance with the current regulations at 40 CFR 122 and 40 CFR 125, issued in 2014, and that the facility has implemented any associated requirements. EPA notes that VADEQ has not made an entrainment BTA determination for North Anna.

Compliance with the permitted BTA does not eclipse the NRC and Dominion's responsibility under the NEPA to evaluate in the DSEIS appropriate mitigation measures to avoid or minimize adverse environmental impacts of the action, even if the impacts are deemed small or minimal. Mitigation of these impacts includes reducing or eliminating an impact over time or compensating for an impact by replacing or providing substitute resources or environments. A NPDES permit does not shield Dominion from conducting a complete NEPA evaluation of impacts and adopting further mitigation measures.

The DSEIS states that the area of impingement is an extremely small percentage of Lake Anna (less than 0.001 percent of the lake's total surface area). Collectively, the information indicates that impingement is unlikely to cause noticeable or detectable impacts on Lake Anna's aquatic populations. Even though the adverse effect of the Area of Influence may be considered small; Dominion should consider approaches to further reduce the effects of impingement.

EPA recommends a fish return system be installed at the cooling water intake structure to reduce the North Anna's impact on the aquatic community. As stated in the study, EPA has found that impingement mortality is typically less than 100 percent if the cooling water intake system includes fish return or backwash systems.

The DSEIS states that the Commonwealth of Virginia is considering two entrainment reduction methods to reduce the adverse effects of the facility. The study notes that an estimated 68,564,980 fish are entrained per season. Although the DSEIS states that the number is small compared to the total number of estimated fish in Lake Anna, EPA recommends Dominion implement both seasonal flow reductions and the installation of the 2-mm fish mesh screens.

EPA recommends the DSEIS clarify how the waste heat treatment facility (WHTF) lagoons are constructed and configured at the site. A detailed schematic would be useful to better understand how the WHTFs interact with the reservoir and how flow moves through the interconnected lagoons to the reservoir. A map provided (Figure 3-1 *Major Surface Water Features Associated with the Lake Anna Watershed*) appears to show the three WHTF lagoons are part of Lake Anna with each lagoon located on separate tributaries to the North Anna River (Elk Creek, WHTF Lagoon 1; Millpond Creek, WHTF Lagoon 2; and Coleman Creek, WHTF Lagoon 3); however, there appears to be no discussion regarding these tributaries and the lagoons relationship the lake is not clearly defined. If the tributaries flow into the WHTFs, disconnecting the tributaries and the associated aquatic communities from the Lake Anna and the North Anna River, EPA recommends an analysis be conducted and a discussion provided in the FSEIS on the impact these facilities have on the tributaries' aquatic organisms and ecosystem including appropriate mitigation analysis.

Greenhouse Gas and Climate Change

EPA recommend the DSEIS include a detailed discussion of the action's GHG emissions in the context of national GHG emission reduction goals over the anticipated action lifetime and address any conflict over time between continued emissions and national GHG emissions reduction goals, including ways to avoid or mitigate that conflict. As appropriate, EPA recommends consideration of state and regional goals as well.

Environmental Justice

EPA recognizes that the NRC has conducted EJ-focused analyses to avoid, minimize, and/or mitigate disparate impacts among local communities. To support these efforts, EPA recommends the use of the EJSCREEN tool. EJSCREEN is a publicly accessible online mapping system that combines environmental and demographic data to enable analyses of populations who may experience adverse environmental impacts. In addition to data concerning

communities of color and low-income populations, the tool provides demographic data regarding linguistic isolation, education, and age, all of which may enhance EJ-related analyses and outreach. The EJSCREEN tool is available at <https://www.epa.gov/ejscreen>.

EPA encourages the NRC to conduct (or continue to advance) community outreach for meaningful public engagement and participation, particularly with low income, minority and/or linguistically isolated communities in the study area. EPA encourages the NRC to provide notices of public meetings, notices of informational events, and/or other related resources at frequently visited community locations. These locations may include, but may not be limited to, schools, faith centers, community centers, barbershops, salons, and medical centers. These efforts should be documented in the FSEIS.