VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

June 5, 2017

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Director, Division of Spent Fuel Management
Office of Nuclear Material Safety and Safeguards
Washington, DC 20555-0001

Serial No. 17-228
NRA/DEA R0
Docket No. 72-16
License No. SNM-2507

VIRGINIA ELECTRIC AND POWER COMPANY
OLD DOMINION ELECTRIC COOPERATIVE
NORTH ANNA POWER STATION INDEPENDENT SPENT FUEL STORAGE INSTALLATION (ISFSI)
LICENSE RENEWAL APPLICATION:
DECOMMISSIONING COST ESTIMATE INFORMATION (CAC NO. L25121)

On May 25, 2016, Virginia Electric and Power Company (Dominion Energy Virginia or the Company), on behalf of itself and Old Dominion Electric Cooperative (ODEC), submitted an application for renewal of the North Anna Power Station (NAPS) site-specific Independent Spent Fuel Storage Installation (ISFSI) license SNM-2507 (Agency Documents Access and Management System (ADAMS) Accession No. ML16153A140). The Nuclear Regulatory Commission (NRC) acknowledged acceptance of the license renewal application on July 21, 2016 (ADAMS Accession No. ML16207A104).

On April 7, 2017, the Company received an email from the NRC (ADAMS Accession No. ML17101A702) with a request for information regarding the decommissioning cost estimate related to the application for renewal of the NAPS site-specific ISFSI license.

Attachment 1 provides the requested information to support the staff's review of the decommissioning funding plan submitted in Appendix H of the application for renewal of the NAPS site-specific ISFSI license.

NM5526

If you have any questions or require additional information, please contact Ms. Diane E. Aitken at (804) 273-2694.

Sincerely,

Mark D. Sartain
Vice President – Nuclear Engineering & Fleet Support

Vicki L. Hull
NOTARY PUBLIC
Commonwealth of Virginia
Reg. # 140542
My Commission Expires May 31, 2018

COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Mark D. Sartain, who is Vice President – Nuclear Engineering & 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 5TH day of June, 2017.

My Commission Expires: 5-31-18.

Vicki L. Hull
Notary Public

Commitments made in this letter:

None

Attachment 1: NAPS ISFSI Decommissioning Cost Estimate Information

cc: U.S. Nuclear Regulatory Commission
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Attachment 1

NAPS ISFSI Decommissioning Cost Estimate Information

North Anna Power Station ISFSI

Virginia Electric and Power Company

email Request:

As discussed, with regard to the NRC staff's review of the decommissioning funding plan submitted in Appendix H of the NAPS ISFSI license renewal application (LRA), the staff is looking for information to verify that the decommissioning cost estimate (DCE) includes:

- *costs for labor, equipment and supplies, overhead and contractor profit, sampling and laboratory analysis, and miscellaneous expenses (e.g., license fees, insurance, and taxes).*
- *costs for all major decommissioning and site control and maintenance activities specified in NUREG-1757, Vol. 3, Rev. 1, Section A.3, including (a) planning and preparation, (b) decontamination and/or dismantling of facility components, (c) packaging, shipment, and disposal of radioactive wastes, (d) a final radiation survey, (e) restoration of contaminated areas on facility grounds, if necessary, and (f) site stabilization and long-term surveillance, if necessary.*

Requested Information:

The North Anna ISFSI site provides capacity for interim storage of spent fuel from the North Anna Power Station. There are currently two licensed storage pads in place at the North Anna ISFSI. The application submitted for renewal of the site-specific license (License Number SNM-2507) includes the reinforced concrete pad designated as pad No. 1 (Reference 1). The second reinforced concrete pad at the North Anna ISFSI (pad No. 2) is licensed pursuant to the general license provisions contained in NRC regulations in 10 CFR 72.210. The decommissioning funding plan for the North Anna ISFSI, updated at the time the license renewal application was submitted and included as Appendix H to the application, addresses the entire ISFSI site (i.e., both pad No. 1 and pad No. 2).

Currently, the TN-32 storage system (i.e., vertical, metal dry storage) is approved for use on pad No.1. Pad No. 2 is designed for storage using the NUHOMS-HD system that utilizes dry storage canisters (DSCs) to store spent fuel and concrete Horizontal Storage Modules (HSMs) for physical and radiological protection of the DSCs.

Appendix H states that financial assurance is provided using the external sinking fund method and that collections are based on site-specific cost estimates that include radiological decommissioning, spent fuel management (including ISFSI decommissioning), and site restoration. The funds collected for decommissioning are provided in Tables H1.1-1, *Total Funds and Allocated Radiological Funds (Dominion)*, and H2.1-1, *Total Funds and Allocated Radiological Funds (ODEC)*. Only a small part of those funds apply to ISFSI decommissioning, which is addressed in Tables H1.2-1 and H2.2-1, *Cost Estimates Applicable to ISFSI Decommissioning Costs.*

Tables H1.2-1 and H2.2-1 include costs associated with professional and craft labor (including wages, fringe benefits, payroll taxes, insurance, overhead and profit), materials and services, analytical equipment, and license fees necessary to release the entire ISFSI site (including both pad No. 1 and pad No. 2) for unrestricted use and the cost to terminate the site-specific ISFSI license upon conclusion of the transfer of spent fuel and Greater Than Class C (GTCC) waste to the Department of Energy. Although these costs are not specifically enumerated in the tables, they are accounted for in the detailed cost estimate that was used to generate the tables.

Based on the low neutron flux from the bottom of the cask relative to the cask interior, and given the low activation potential of the concrete, very little activation of concrete will occur. As such, the concrete material of the ISFSI pads and HSMs are assumed to have no surface contamination (References 8, 9, and 10) and no radiological decommissioning is required. Therefore, radiological decontamination-related costs in the ISFSI decommissioning cost estimate provided in Tables H1.2-1 and H2.2-1 for the ISFSI site (both pad No. 1 and pad No. 2) are limited to (a) preparation of a license termination plan, and (b) planning and performance of a Final Status Survey during dismantlement and demolition of the ISFSI site to verify NRC release limits are met. Due to the assumed lack of contamination, additional planning and preparation related to radiological decommissioning; decontamination of facility components; packaging, shipment, and disposal of radioactive wastes; restoration of contaminated areas on facility grounds; and site stabilization and long-term surveillance are not applicable to the ISFSI decommissioning cost estimate.

The cost estimates in Tables H1.2-1 and H2.2-1 were prepared using the guidelines provided in Regulatory Guide 1.202 and NUREG-1713 (References 2 and 3). In addition, these cost estimates considered the guidelines in NUREG-1757 (Reference 4). As stated above, the cost estimates in Table H1.2-1 and Table H2.2-1 include professional and craft labor burdened with overhead and profit, materials and services, and analytical equipment costs necessary to prepare and submit a license termination plan and to perform a Final Status Survey (verification survey). Labor cost is reported as both a distributed cost and an undistributed cost. The total undistributed costs shown in Table H1.2-1 and Table H2.2-1 include Third Party Staff, NRC Licensing Fees, and Materials and Services. The cost estimates assume that the verification survey will be performed in accordance with NUREG-1575 (Reference 5) and in conjunction with ISFSI dismantlement and demolition to allow access to the interior components of the HSMs during the verification survey.

Consistent with the regulatory definition of decommissioning in 10 CFR 50.2 and Regulatory Guide 1.202, the cost of dismantlement, demolition, disposal of demolition debris, and restoring the ISFSI site to greenfield conditions are excluded from Table H1.2-1 and Table H2.2-1. However, these cost elements are accounted for in the decommissioning cost estimate for North Anna Power Station. The most recent financial assurance for the cost elements excluded from Table H1.2-1 is provided in the Virginia Electric and Power Company Decommissioning Funding Status Report (Reference 6). The most recent financial assurance for the cost elements excluded

from Table H2.2-1 is provided in the Old Dominion Electric Cooperative Decommissioning Funding Status Report (Reference 7).

References:

1. North Anna Power Station ISFSI License Renewal Application, dated May 25, 2016 (ADAMS Accession No. ML16153A140).
2. Regulatory Guide 1.202, "Standard Format and Content of Decommissioning Cost Estimates for Nuclear Power Reactors," February 2005.
3. NUREG-1713, "Standard Review Plan for Decommissioning Cost Estimates for Nuclear Power Reactors," December 2004.
4. NUREG-1757, Volume 3, Revision 1, "Consolidated Decommissioning Guidance, Financial Assurance, Recordkeeping and, Timeliness," February 2012.
5. NUREG-1575, Revision 1, "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)," August 2000.
6. Virginia Electric and Power Company Decommissioning Funding Status Report, dated March 30, 2017 (ADAMS Accession No. ML17094A522).
7. Old Dominion Electric Cooperative North Anna Power Station Units 1 and 2 Decommissioning Funding Status Report, dated March 30, 2017 (ADAMS Accession No. ML17093A669).
8. North Anna Power Station ISFSI Safety Analysis Report, Rev. 9, Sept. 6, 2016 (ADAMS Accession No. ML16181A151).
9. North Anna Power Station ISFSI Safety Evaluation Report 1998.
10. NUHOMS® HD System Final Safety Analysis Report, Rev. 3 (ADAMS Accession Nos. ML13275A287 and ML13275A286).