

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

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


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VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION ENERGY VIRGINIA)
NORTH ANNA POWER STATION ISFSIs
10 CFR 72.30 DECOMMISSIONING FUNDING PLAN

Pursuant to 10 CFR 72.30(b) and (c), Virginia Electric and Power Company (Dominion Energy Virginia), submits the attached decommissioning funding plan for the North Anna Power Station Independent Spent Fuel Storage Installations (ISFSIs).

Please contact Erica N. Combs at (804) 273-3386 if you have any questions or require additional information.

Sincerely,



Mark. D. Sartain
Vice President – Nuclear Engineering and Fleet Support
Virginia Electric and Power Company (Dominion Energy Virginia)

Attachment: Decommissioning Funding Plan for North Anna Power Station ISFSIs

Commitments made in this letter: None

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ATTACHMENT

Decommissioning Funding Plan for
North Anna Power Station ISFSIs

North Anna Power Station
Independent Spent Fuel Storage Installations
Virginia Electric and Power Company (Dominion Energy Virginia)

Decommissioning Funding Plan for North Anna Power Station ISFSIs

Specific License No. SNM-2507, Docket No. 72-16

General License under 10 CFR 72.210, Docket No. 72-56

Pursuant to 10 CFR 72.30(b), Virginia Electric and Power Company (Dominion Energy Virginia) submitted a decommissioning funding plan for the North Anna Power Station (NAPS) Independent Spent Fuel Storage Installations (ISFSIs) on December 17, 2018 (ADAMS Accession No. ML18361A577). 10 CFR 72.30(c) requires each holder of a license under Part 72 to submit a decommissioning funding plan at the time of license renewal and at intervals not to exceed three (3) years with adjustments as necessary to account for changes in costs and the extent of contamination. In accordance with 10 CFR 72.30(c), the information below provides Dominion Energy Virginia's periodic update to the NAPS ISFSIs decommissioning funding plan.

Pursuant to 10 CFR 72.30(b), a decommissioning funding plan must contain:

(1) Information on how reasonable assurance will be provided that funds will be available to decommission the ISFSI or MRS.

Dominion Energy Virginia provides financial assurance for the decommissioning of NAPS using the external sinking fund method. Collections are based on site-specific cost estimates that include radiological decommissioning, spent fuel management (including ISFSI decommissioning), and site restoration.

Table 1 below shows the Total Funds and Allocated Radiological Funds accumulated as of December 31, 2020 and in future dollars for NAPS Units 1 and 2. The table shows that the funds available for ISFSI Decommissioning, Spent Fuel Management and Site Restoration exceed the ISFSI Decommissioning Cost Estimate (DCE) amount.

As a regulated electric utility, Dominion Energy Virginia has the ability to recover its cost of service, including decommissioning funding, through rates. Dominion Energy Virginia maintains a site ISFSI DCE for NAPS, which it updates approximately every five (5) years to determine whether there is any need to adjust rates collected from ratepayers and contributed to the external sinking fund.

Table 1. Total Funds and Allocated Radiological Funds as of December 31, 2020 (*in millions of dollars*)

Unit End of License Year	Total Funds in External Trusts (12/31/2020 \$)	Total Funds in External Trusts (Future \$) ^[1]	Allocated Radiological Funds in External Trusts (12/31/2020 \$)	Allocated Radiological Funds in External Trusts (Future \$) ^[2]	NRC Minimum (Future \$) ^[3]	Funds Available ISFSIs Decommissioning, Spent Fuel Management & Site Restoration (12/31/2020 \$) ^[4]	ISFSIs DCE (12/31/2020 \$) ^[5]
NAPS Unit 1 2038	\$722.00	\$1,088.94	\$496.22	\$778.65	\$441.19	\$225.78	\$1.81
NAPS Unit 2 2040	\$678.30	\$1,073.18	\$469.71	\$773.18	\$441.19	\$208.59	

- [1] Total Funds in External Trusts (Future \$) = 2% Real Rate of Return applied to growth of funds in the External Trust to 3.5 years after Start of Decommissioning for each unit.
- [2] Allocated Radiological Funds in External Trusts (Future \$) = 2% Real Rate of Return applied to growth of funds in the External Trusts to 3.5 years after Start of Decommissioning for each unit.
- [3] NRC Minimum (Future \$) = NRC Minimum amount reflects December 31, 2020 NRC Minimum Amount due to the application of a 2% Real Rate of Return to growth of funds in the External Trusts and keeping the NRC Minimum amount constant. The NAPS NRC Minimum Amounts are presented representing Dominion's 89.26% share of responsibility for NAPS decommissioning costs¹.
- [4] Funds Available for ISFSI Decommissioning, Spent Fuel Management, and Site Restoration (12/31/2020 \$) is calculated as the difference between Total Funds in the External Trusts (2020 \$) and the Allocated Radiological Funds in External Trusts (2020 \$).
- [5] ISFSI DCE amount as reported in Table 2 of this filing.

¹ North Anna Power Station is jointly owned by Virginia Electric and Power Company (88.4%) and Old Dominion Electric Cooperative (11.6%). However, Dominion Energy Virginia is responsible for 89.26% of the decommissioning obligation.

- (2) **A detailed cost estimate for decommissioning, in an amount reflecting:**
- (i) **The cost of an independent contractor to perform all decommissioning activities;**
 - (ii) **An adequate contingency factor; and**
 - (iii) **The cost of meeting the §20.1402 of this chapter criteria for unrestricted use, provided that, if the applicant or licensee can demonstrate its ability to meet the provisions of §20.1403 of this chapter, the cost estimate may be based on meeting §20.1403 criteria.**

General Methodology Used to Develop ISFSI Decommissioning Cost Estimates

A site-specific ISFSI DCE based on 10 CFR 72.30 requirements was prepared for the NAPS ISFSI in 2020. The ISFSI DCE was based on the assumption that a third-party contractor would perform decommissioning. To determine the cost of using a third-party contractor, fully burdened labor rates (labor costs plus employee benefits and taxes) were used as a basis and a premium was added to represent a third-party contractor's profit margin.

The site-specific ISFSI DCE includes undistributed costs (for support activities and costs such as staff, security, insurance, energy, materials, and services) allocated to the ISFSI decommissioning period. The site-specific ISFSI DCE includes 25% contingency in accordance with NUREG-1757, "Consolidated Decommissioning Guidance," Volume 3, Revision 1. Table 2 below shows the contingency as one line item.

The site-specific ISFSI DCE is based on remediating the site to a residual radioactivity level consistent with 10 CFR 20.1402 (i.e., unrestricted use). As shown in Table 2, the estimated cost to decommission the ISFSIs at NAPS is \$1.813 million in 2020 dollars (89.26% decommissioning responsibility).

Table 2. NAPS Site-Specific Cost Estimates Applicable to ISFSI Decommissioning Costs – 10 CFR 72.30 (*in thousands of dollars*)

ISFSI Decommissioning Activity Description	Labor	Equipment	Disposal	Other	25% Contingency	Total (2020 \$)
Distributed (Direct) Cost						
Preparation and NRC Review of License Termination Plan	\$ 98	\$ -	\$ -	\$ 150	\$ -	\$ 248
Verification Survey of Horizontal Storage Modules	\$ 196	\$ 91	\$ -	\$ -	\$ -	\$ 287
Preparation of Final Report on Decommissioning and NRC Review	\$ 98	\$ -	\$ -	\$ 150	\$ -	\$ 248
Total Distributed (Direct) Cost	\$ 392	\$ 91	\$ -	\$ 300	\$ -	\$ 783
Total Undistributed (Allocated) Cost	\$ 481	\$ 14	\$ -	\$ 172	\$ -	\$ 667
Total NAPS ISFSI Decommissioning Cost	\$ 873	\$ 105	\$ -	\$ 472	\$ -	\$ 1,450
25% Contingency Applied to Total NAPS ISFSI Decommissioning Cost Estimate					\$ 363	\$ 363
Total NAPS ISFSI Decommissioning Cost Estimate with Contingency						\$ 1,813
Decommissioning Cost shown at	89.26%	Dominion Energy Virginia Decommissioning Responsibility Percentage				

Information required by 10 CFR 72.30(c)

10 CFR 72.30(c) requires updated decommissioning funding plans to specifically consider the effect of the following events on decommissioning costs:

- (1) *Spills of radioactive material producing additional residual radioactivity in onsite subsurface material.*

There have been no reported spills at the ISFSI.

- (2) *Facilities modifications.*

There have been no facility modifications affecting the ISFSI DCE.

- (3) *Changes in authorized possession limits.*

As stated below, the ISFSI DCE is based on ISFSIs that are sized, when used in conjunction with the spent fuel pool, to accommodate the spent fuel generated over the life of the station. There have been no changes in authorized possession limits affecting the DCE.

- (4) *Actual remediation costs that exceed the previous cost estimate.*

No actual remediation costs have been incurred.

(3) Identification of and justification for using key assumptions contained in the DCE.

The DCEs for the NAPS ISFSIs assumes:

- (i) ISFSIs that are sized, when used in conjunction with the spent fuel pool, to accommodate the spent fuel generated over the life of the station.
- (ii) Decommissioning will be performed by an independent contractor.
- (iii) Storage canisters will be used to ship the contained spent fuel to the Department of Energy. Single purpose canisters will be qualified for shipment or transported in licensed transportation overpacks to avoid the need for repackaging and will maintain occupational exposures as low as reasonably achievable.
- (iv) A dry transfer facility will not be necessary.
- (v) The ISFSI pads and support modules are assumed to be free of contamination and left in place.

- (4) A description of the method of assuring funds for decommissioning from paragraph (e) of this section, including means for adjusting cost estimates and associated funding levels periodically over the life of the facility.**

Dominion Energy Virginia uses an external sinking fund method for NAPS. The external sinking fund is based on site-specific cost estimates that include estimated ISFSI decommissioning costs. Dominion Energy Virginia updates these costs estimates approximately every five (5) years to determine whether there is any need to adjust rates collected from ratepayers and contributed to the external sinking fund. When a site-specific ISFSI Decommissioning Cost Estimate (DCE) is not performed in a reporting year, the ISFSI decommissioning funding plan will adjust the most recent site-specific ISFSI DCE using a CPI indice based escalation rate and will consider the need for any further adjustment based on the factors in 10 CFR 72.30(c)(1) – (4).

The CPI indice annual escalation rate mnemonic is as follows:

CPI – U: Urban Consumer – All Items, (Index 1982-84=100, SA), U. S. Bureau of Labor Statistics (BLS); Moody's Analytics (ECCA) Forecast, Quarterly, United States.

- (5) The volume of onsite subsurface material containing residual radioactivity that will require remediation to meet the criteria for license termination.**

Onsite subsurface material associated with the NAPS ISFSIs is assumed to have no residual radioactivity that will require remediation to meet the criteria for license termination. The spent fuel storage casks are sealed and contain no liquid.

- (6) A certification that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning.**

Dominion Energy Virginia certifies that financial assurance for the estimated cost of decommissioning the NAPS ISFSI has been provided as discussed above.