

**Dominion  
Energy<sup>®</sup>**

**Application, Direct  
Testimony, Appendices,  
and Schedules of Virginia  
Electric and Power  
Company**

Before the State Corporation  
Commission of Virginia

For approval and certification of  
the Coastal Virginia Offshore  
Wind Commercial Project and  
Rider Offshore Wind, pursuant to  
§ 56-585.1:11, § 56-46.1, § 56-265.1  
*et seq.*, and § 56-585.1 A 6 of the  
Code of Virginia

Volume 1 of 11  
**PUBLIC VERSION**

Case No. PUR-2021-00142

Filed: November 5, 2021

**Application of Virginia Electric and Power Company  
For approval and certification of the Coastal Virginia Offshore Wind  
Commercial Project, and Rider Offshore Wind, pursuant to § 56-585.1:11, § 56-46.1,  
§ 56-265.1 *et seq.*, and § 56-585.1 A 6 of the Code of Virginia  
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**Application of Virginia Electric and Power Company  
For approval and certification of the Coastal Virginia Offshore Wind  
Commercial Project, and Rider Offshore Wind, pursuant to § 56-585.1:11, § 56-46.1,  
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COMMONWEALTH OF VIRGINIA  
STATE CORPORATION COMMISSION

APPLICATION OF )  
 )  
VIRGINIA ELECTRIC AND POWER COMPANY )  
 )  
For approval and certification of the Coastal Virginia ) Case No. PUR-2021-00142  
Offshore Wind Commercial Project and Rider Offshore )  
Wind, pursuant to § 56-585.1:11, § 56-46.1, § 56-265.1 *et* )  
*seq.*, and § 56-585.1 A 6 of the Code of Virginia )

**APPLICATION OF VIRGINIA ELECTRIC AND POWER COMPANY FOR  
APPROVAL AND CERTIFICATION OF ELECTRIC TRANSMISSION  
FACILITIES: VIRGINIA FACILITIES, APPROVAL OF  
RIDER OSW, AND REQUEST FOR LIMITED WAIVER**

Pursuant to § 56-585.1:11 of the Code of Virginia (“Va. Code” or “Code”), Virginia Electric and Power Company (“Dominion Energy Virginia” or the “Company”), by counsel, hereby requests review and approval of the Coastal Virginia Offshore Wind Commercial Project (“CVOW Commercial Project,” “CVOW Project,” “CVOW,” or the “Project”), as required, to be located in a federal lease area beginning approximately 27 statute miles (approximately 24 nautical miles) off the coast of Virginia Beach, Virginia, (“Lease Area”) and its related power export facilities.

Additionally, pursuant to Va. Code § 56-46.1 and the Utility Facilities Act, Va. Code § 56-265.1 *et seq.*, the Company hereby requests approval and certification of electric interconnection and transmission facilities, comprising transmission facilities required to interconnect the CVOW Commercial Project reliably with the existing transmission system (the “Virginia Facilities”).

Finally, pursuant to Va. Code § 56-585.1:11 and related provisions of § 56-585.1 A 6 (or “Subsection A 6”), in conformance with the State Corporation Commission of Virginia’s (the

“Commission”) July 26, 2021 Order entered in this docket (“July 26 Order”), and subject to the Rules Governing Utility Rate Applications and Annual Informational Filings of Investor-Owned Electric Utilities,<sup>1</sup> Dominion Energy Virginia hereby files with the Commission its application for approval of a rate adjustment clause (“RAC”), designated Rider Offshore Wind (“Rider OSW”), for the recovery of costs incurred to construct, own, and operate the offshore wind generation facilities and related interconnection and transmission facilities that compose the CVOW Commercial Project. Within Project costs, the Company has included the costs of its Foreign Currency Risk Mitigation Plan, which the Company requests the Commission deem reasonable and prudent as soon as procedurally possible (collectively, the “Application”).

The Company further requests limited waiver of certain of the Rate Case Rules. Specifically, pursuant to Rule 10 E of the Rate Case Rules, 20 VAC 5-204-10 E, and for the reasons stated herein, the Company requests a limited waiver of the requirements of Rules 60 and 90 of the Rate Case Rules, 20 VAC 5-204-60 and 20 VAC 5-204-90, with respect to hard copies of certain Filing Schedule 46 materials as it relates to the provision of “economic analyses, contracts, studies, investigations, results from requests for proposals, cost benefit analyses . . . ,” which are voluminous.

In support of its Application and request for limited waiver, the Company respectfully shows as follows:

## **I. GENERAL INFORMATION**

1. Dominion Energy Virginia is a public service corporation organized under the laws of the Commonwealth of Virginia furnishing electric service to the public within its certificated service territory. The Company also supplies electric service to non-jurisdictional

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<sup>1</sup> 20 VAC 5-204-5 *et seq.* (the “Rate Case Rules”).

customers in Virginia and to the public in portions of North Carolina. The Company is engaged in the business of generating, transmitting, distributing, and selling electric power and energy to the public for compensation. Dominion Energy Virginia’s electric system—consisting of facilities for the generation, transmission, and distribution of electric energy—is interconnected with the electric systems of neighboring utilities and is a part of the interconnected network of electric systems serving the continental United States. By reason of its operation in two states and its interconnections with other utilities, the Company is engaged in interstate commerce. The Company is also a public utility under the Federal Power Act, and certain of its operations are subject to the jurisdiction of the Federal Energy Regulatory Commission. The Company is an operating subsidiary of Dominion Energy, Inc. (“Dominion Energy”).

2. The Company’s post office address is:

Virginia Electric and Power Company  
120 Tredegar Street  
Richmond, Virginia 23219

3. The addresses and telephone numbers of the attorneys for the Company are:

Paul E. Pfeffer  
David J. DePippo  
Dominion Energy Services, Inc.  
120 Tredegar Street  
Richmond, Virginia 23219  
(804) 787-5607 (PEP)  
(804) 819-2411 (DJD)

Vishwa B. Link  
Joseph K. Reid, III  
Lisa R. Crabtree  
Timothy D. Patterson  
Jennifer D. Valaika  
April M. Jones  
McGuireWoods LLP  
Gateway Plaza  
800 East Canal Street  
Richmond, Virginia 23219-3916

(804) 775-4330 (VBL)  
(804) 775-1198 (JKR)  
(804) 775-1327 (LRC)  
(804) 775-1069 (TDP)  
(804) 775-1051 (JDV)  
(804) 775-1042 (AMJ)

## II. BACKGROUND

4. The CVOW Project is designed to provide clean, reliable offshore wind energy to Virginia customers, create the opportunity to displace electricity generated by fossil fuel-powered plants, and offer substantial economic and environmental benefits to the Commonwealth of Virginia. This Project represents a viable and needed opportunity for Virginia to obtain clean renewable energy and realize its economic and environmental goals. The Project is essential to meeting the benchmarks set forth in the Virginia Clean Economy Act (“VCEA”)<sup>2</sup> and other legislation mandating the development and deployment of renewable generation resources. In 2010, the Virginia General Assembly passed legislation to create the Virginia Offshore Wind Development Authority to help facilitate offshore wind energy development in the Commonwealth. During its 2018 and 2020 legislative sessions, the General Assembly passed the Grid Transformation and Security Act (“GTSA”)<sup>3</sup> and VCEA, respectively, which amended and added multiple provisions to the Code expressing the General Assembly’s and the Commonwealth’s support for offshore wind, and found certain projects advancing these objectives to be in the public interest. The VCEA expressly supports the development of 2,500 to 3,000 megawatts (“MW”) of clean, reliable offshore wind energy to be in service by 2028. Specifically, Va. Code § 56-585.1 A 6 indicates in relevant part (emphasis added),

In connection with planning to meet forecasted demand for electric generation supply and assure the adequate and sufficient reliability of service, consistent with § 56-598, *planning and development*

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<sup>2</sup> Va. Code §§ 56-585.1:11, 56-585.5.

<sup>3</sup> Virginia 2018 Acts of Assembly, ch. 296.

*activities for a new utility-owned and utility-operated generating facility or facilities utilizing energy derived from sunlight or from onshore or offshore wind are in the public interest.*

Notwithstanding any provision of Chapter 296 of the Acts of Assembly of 2018, construction, purchasing, or leasing activities for a new utility-owned and utility-operated generating facility or facilities utilizing energy derived from sunlight or from onshore wind with an aggregate capacity of 16,100 megawatts, including rooftop solar installations with a capacity of not less than 50 kilowatts, and with an aggregate capacity of 100 megawatts, together with a utility-owned and utility-operated generating facility or *facilities utilizing energy derived from offshore wind with an aggregate capacity of not more than 3,000 megawatts, are in the public interest.*

Va. Code § 56-585.1:4 A (emphasis added) provides further,

Notwithstanding any provision of Chapter 296 of the Acts of Assembly of 2018, construction, purchasing, or leasing activities for a new utility-owned and utility-operated generating facility or facilities utilizing energy derived from sunlight or from onshore wind with an aggregate capacity of 16,100 megawatts, including rooftop solar installations with a capacity of not less than 50 kilowatts, and with an aggregate capacity of 100 megawatts, together with a utility-owned and utility-operated generating facility or *facilities utilizing energy derived from offshore wind with an aggregate capacity of not more than 3,000 megawatts, are in the public interest.*

Va. Code § 56-585.1:11 B (emphasis added) states,

In order to meet the Commonwealth's clean energy goals, prior to December 31, 2034, *the construction or purchase by a public utility of one or more offshore wind generation facilities located off the Commonwealth's Atlantic shoreline or in federal waters and interconnected directly into the Commonwealth, with an aggregate capacity of up to 5,200 megawatts, is in the public interest* and the Commission shall so find, provided that no customers of the utility shall be responsible for costs of any such facility in a proportion greater than the utility's share of the facility.

Finally, Va. Code § 56-585.1:11 C 1 (emphasis added) states, in part:

Pursuant to subsection B, *construction by a Phase II Utility of one or more new utility-owned and utility-operated generating facilities*

*utilizing energy derived from offshore wind and located off the Commonwealth's Atlantic shoreline, with an aggregate rated capacity of not less than 2,500 megawatts and not more than 3,000 megawatts, along with electrical transmission or distribution facilities associated therewith for interconnection is in the public interest.*

5. The CVOW Project also supports and furthers other related important policy goals of the Commonwealth. The Commonwealth Clean Energy Policy provided at Va. Code § 45.2-1706.1 seeks to reach net-zero emissions in all sectors, including electric power, by 2045, promote environmental justice, and prioritize economic competitiveness and workforce development. To achieve these objectives, it is the “policy of the Commonwealth” to, among other things, “[d]evelop energy resources necessary to produce 30 percent of Virginia’s electricity from renewable energy sources by 2030 and 100 percent of Virginia’s electricity from carbon-free sources by 2040.”<sup>4</sup> Va. Code § 45.1706.1 C 4 further declares it is “the policy of the Commonwealth” to “[i]ncrease wind energy development and grow the Commonwealth’s role as a wind industry hub for offshore wind generation projects in state and federal waters off the United States coast.”

6. The Company’s development of the CVOW Commercial Project has benefitted from the invaluable experience gained from the 12 MW Coastal Virginia Offshore Wind demonstration project (“Pilot Project”), which was approved by the Commission in Case No. PUR-2018-00121. With this experience, the Company is well positioned to be a leader in the offshore wind industry, which is set to see the installation of more than 1,500 turbines from North Carolina to Massachusetts throughout 17 federally leased areas off the coasts of eight U.S. states.

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<sup>4</sup> Va. Code § 45.2-1706.1 A 1.



7. The CVOW Project encompasses offshore wind generation facilities consisting of 176 14.7 MW Wind Turbine Generators (“WTGs”) located in the Lease Area<sup>5</sup> as well as related Offshore Export Facilities, which will transport the generated electricity onshore to the Cable Landing Location at the State Military Reservation (“SMR”) in the City of Virginia Beach, Virginia, then to the Harpers Switching Station at Naval Air Station Oceana, which will become the point of interconnection (“POI”) to the PJM system after construction, and finally terminating at the Company’s existing Fentress Substation. As discussed below, the Virginia Facilities, which are a subset of the larger CVOW Project, include certain offshore and onshore interconnection and transmission facilities. With a combined nominal capacity of 2,587 MW (AC), the CVOW Commercial Project is expected to provide approximately 9,500 gigawatt-hours of carbon-free energy per year.

8. The proposed Virginia Facilities are necessary to interconnect the CVOW Commercial Project reliably with the existing transmission system. The Virginia Facilities include (1) 3.0 miles of the offshore submarine export circuits designed to bring electric energy output from the WTGs onshore, (2) underground onshore export circuits to carry the electricity to the proposed Harpers Switching Station located on Naval Air Station Oceana property in Virginia, (3) the new Harpers Switching Station, (4) three new overhead 230 kV transmission circuits between the new Harpers Switching Station and the Company’s existing Fentress Substation, (5) a partial rebuild of Line #271, (6) a rebuild of Line #2240, and (7) an expansion of Fentress Substation.

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<sup>5</sup> In a separate proceeding, during the fourth quarter of 2021, the Company will submit an Application for Approval of Affiliate Agreement Under Chapter 4 of Title 56 of the Code of Virginia, seeking authority under the Affiliates Act to enter into an agreement with its affiliate, Blue Ocean Energy Marine, LLC, for the use of its WTIV to install the WTGs.

9. In the July 26 Order, the Commission established this proceeding to receive and consider the Company's Application and directed the Company to include specific additional information and analyses with its Application, as well as an index identifying the specific location(s) within the Application corresponding to the questions and issues for which the Commission required responses. The Company has complied with the July 26 Order and the Company's responses to the inquiries presented therein are included, using the Commission's nomenclature, in Section VII of the Generation Appendix.

10. To best facilitate the Commission's review of this Application, it is presented in three primary components: (1) Generation Appendix and related testimony, which address statutory requirements unique to offshore wind projects and the responses to the Commission's July 26 Order; (2) the Transmission Appendix, DEQ Supplement, Environmental Routing Study, and related testimony; and (3) the RAC, which includes the revenue requirement, cost allocation, and rates testimony. An index providing additional detail regarding the information included in each component is included as Schedule 1 to the testimony of Company Witness Mark D.

Mitchell. In short, these three components address the following issues:

- a. Statutory Requirements for Offshore Wind: The Company is including with this filing a Generation Appendix that describes the Company's compliance with Code § 56-585.1:11, and related provisions of Code § 56-585.1 A 6. It also addresses the questions presented in the Commission's July 26 Order. The Generation Appendix is presented in prompt and response format, and is sponsored by designated witnesses. Some of these witnesses expand upon statutory compliance issues in greater detail in their testimony.

- b. Transmission Appendix: This document presents information responsive to the “Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia” in support of the Company’s application for approval and certification of the Virginia Facilities under Code § 56-46.1 and § 56-265.1, *et seq.* The Transmission Appendix is presented in prompt and response format, and is sponsored by designated witnesses. The Transmission Appendix is supported by the DEQ Supplement and Environmental Routing Study.
- c. RAC Testimony: The Company presents witness testimony in support of the requested revenue requirement, jurisdictional and class cost allocation, and rate design. This testimony is presented in the Company’s typical format for Subsection A 6 RAC applications.

### **III. STATUTORY REQUIREMENTS FOR OFFSHORE WIND PROJECTS**

11. The Code sets forth various requirements for offshore wind projects undertaken off the Commonwealth’s shores. Code § 56-585.1:11 in particular addresses the development of offshore wind capacity in Virginia. Section 56-585.1:11 C 1 provides in relevant part:

In acting upon any request for cost recovery by a Phase II Utility for costs associated with such a facility, the Commission shall determine the reasonableness and prudence of any such costs, provided that such costs shall be presumed to be reasonably and prudently incurred if the Commission determines that (i) the utility has complied with the competitive solicitation and procurement requirements pursuant to subsection E; (ii) the project’s projected total levelized cost of energy, including any tax credit, on a cost per megawatt hour basis, inclusive of the costs of transmission and distribution facilities associated with the facility’s interconnection, does not exceed 1.4 times the comparable cost, on an unweighted average basis, of a conventional simple cycle combustion turbine generating facility as estimated by the U.S. Energy Information Administration in its Annual Energy Outlook 2019; and (iii) the utility has commenced construction of such facilities for U.S. income taxation purposes prior to January 1, 2024, or has a plan for

such facility or facilities to be in service prior to January 1, 2028. The Commission shall disallow costs, or any portion thereof, only if they are otherwise unreasonably and imprudently incurred. In its review, the Commission shall give due consideration to (a) the Commonwealth's renewable portfolio standards and carbon reduction requirements, (b) the promotion of new renewable generation resources, and (c) the economic development benefits of the project for the Commonwealth, including capital investments and job creation.

12. As discussed, the Company is including with this Application a Generation Appendix as a vehicle to explain in detail how the Company has complied with the legal requirements set forth in § 56-585.1:11 and related provisions of § 56-585.1 A 6 that are not readily addressed by established filing formats for other types of cases, or that otherwise warrant further discussion. The Company also addresses each requirement of the Commission's July 26 Order requiring additional information and analyses about the CVOW Commercial Project in Section VII of the Generation Appendix.

13. The VCEA instructs that an appropriate cost comparison for offshore wind is the Project's total levelized cost of energy ("LCOE") in reference to the comparable cost of a conventional simple cycle combustion turbine generating facility. Specifically, it states that the LCOE should not exceed 1.4 times that cost as estimated by the U.S. Energy Information Administration in its Annual Energy Outlook 2019, or \$125 per megawatt-hour ("MWh") in 2018 dollars. As supported by Company Witnesses Joshua Bennett and Glenn Kelly, the CVOW Commercial Project's LCOE of \$87 per MWh in 2027 dollars (\$73 per MWh in 2018 dollars) is well within this cost governor established by the Commonwealth. Should the federal production tax credit be expanded through future legislation, the Project's LCOE would drop to \$80 per MWh in 2027 dollars.

14. In addition to the information provided in the Generation Appendix, the generation portion of the Project is supported by the pre-filed direct testimony of Company Witnesses Joshua Bennett and Glenn Kelly. In addition to their substantive testimony, Company Witnesses Bennett and Kelly sponsor portions of the Generation Appendix, along with Company Witnesses Grant Hollett, Scott Lawton, and John Larson.

#### **IV. REQUEST FOR APPROVAL AND CERTIFICATION OF THE VIRGINIA FACILITIES**

15. In order to interconnect the proposed CVOW Commercial Project reliably as requested by the Company's Generation Construction Group ("Dominion Generation" or the "Customer"), and to maintain the structural integrity and reliability of the transmission system in compliance with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, Dominion Energy Virginia requests approval and certification of the following Virginia Facilities in the Cities of Virginia Beach and Chesapeake, Virginia:

- Offshore Export Circuits: Install nine 230 kV submarine export circuits, which begin approximately 3.0 miles offshore at the Virginia jurisdictional line demarcating state-owned submerged lands and extend to an onshore Cable Landing Location on SMR in the City of Virginia Beach, Virginia;<sup>6</sup>
- Onshore Export Circuits: At the onshore Cable Landing Location on SMR, the Offshore Export Circuits will transition to nine underground 230 kV Onshore Export Circuits, which will extend underground approximately 4.4 miles to the proposed Harpers Switching Station located on Naval Air Station Oceana ("NAS Oceana") property in Virginia;
- Harpers Switching Station: Construct a 230 kV Gas Insulated Station ("GIS"), 12 line-position, breaker-and-a-half bus configuration switching station on a site located along Harpers Road at NAS Oceana, which will transition the nine Onshore Export Circuits to three Overhead Transmission Circuits. The proposed arrangement will include twenty-five 230 kV 4000A circuit breakers, nine 230 kV 180 MVAR fixed reactor banks, two

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<sup>6</sup> For purposes of the Transmission Appendix, the Offshore Export Circuits commence 3.0 miles offshore. See Section I.A of the Generation Appendix filed with the Application for a detailed description of the Offshore Export Circuits, which are referred to therein as the Offshore Export Cables. Use of "Offshore Export Circuits" in the Transmission Appendix refers to the grouping of three Offshore Export Cables (totaling nine) coming in from an offshore substation for transfer of electricity from 3.0 miles offshore to the Cable Landing Location at SMR.

230 kV 150 MVAR variable reactor banks, three 250 MVAR static synchronous compensators (“STATCOMs”), and associated facilities;

- Overhead Transmission Circuits: Install three new overhead 230 kV transmission circuits, each with a rating of approximately 1,500 MVA, along the same corridor extending approximately 14.2 miles between the Harpers Switching Station and the Company’s existing Fentress Substation and utilizing a combination of new, existing and expanded right-of-way in the Cities of Virginia Beach and Chesapeake, Virginia;
- Line #271 Partial Rebuild: Wreck and rebuild approximately 6.1 miles of the Company’s existing approximately 7.1-mile 230 kV overhead Landstown-Pocaty Line #271, which also supports idle 115 kV Line #I-74. With a few exceptions discussed in the Transmission Appendix, the Company will wreck the existing double circuit lattice structures for Lines #271/#I-74 and replace them with (i) new double circuit monopole structures to carry Line #271 and one Overhead Transmission Circuit, and (ii) either new single circuit or double circuit monopole structures to carry the two remaining Overhead Transmission Circuits. The Line #271 Partial Rebuild will rebuild COR-TEN® towers that have been identified for replacement and remove idle Line #I-74.<sup>7</sup> The Company determined based on sound engineering judgment that it is prudent to wreck these COR-TEN® structures in order to accommodate the Overhead Transmission Circuits on co-located structures within the existing right-of-way and during the same outage, and expedite the rebuild of these structures as part of the Virginia Facilities;<sup>8</sup>
- Line #2240 Rebuild: Wreck and rebuild the entire approximately 1.9 miles of the Company’s existing 230 kV overhead Fentress-Pocaty Line #2240, which also supports idle 115 kV Line #I-74, where all three Overhead Transmission Circuits will be co-located on structures within a 40-foot expanded right-of-way (from the existing 120-foot-wide right-of-way to an expanded 160-foot right-of-way). The Line #2240 Partial Rebuild will rebuild COR-TEN® towers that have been identified for replacement and remove idle Line #I-74. The Company determined based on sound engineering judgment that it is prudent to wreck these COR-TEN® structures in order to accommodate the Overhead Transmission Circuits on co-located structures within the existing right-of-way and during the same outage, and expedite the rebuild of these structures as part of the Virginia Facilities;<sup>9</sup> and

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<sup>7</sup> The Company considers the removal of idle Line #I-74, as described in this filing for both the Line #271 Partial Rebuild and Line #2240 Rebuild, to qualify as “ordinary extensions or improvements in the usual course of business” pursuant to Va. Code § 56-265.2 A 1 and, therefore, does not require approval pursuant to Va. Code § 56-46.1 B or a certificate of public convenience and necessity (“CPCN”) from the Commission. Should the Commission determine that a CPCN is required for the work associated with the removal of idle Line #I-74 as described herein, the Company requests that the Commission grant such CPCN as part of its final order in this proceeding.

<sup>8</sup> To the extent the Commission approves a route for the Overhead Transmission Circuits that includes the partial rebuild of Line #271, the Company would ask that the Commission’s final order also include amended CPCN approval for that work, to the extent necessary.

<sup>9</sup> To the extent the Commission approves a route for the Overhead Transmission Circuits that includes the rebuild of Line #2240, the Company would ask that the Commission’s final order also include amended CPCN approval for that work, to the extent necessary.

- Fentress Substation Expansion: Expand the Company's existing 500-230 kV Fentress Substation in Chesapeake, Virginia. The proposed arrangement will expand the existing 500 kV yard into a GIS six-position ring bus, install three new 230 kV line terminals, uprate the existing 230 kV Line #2240 terminal to 4000A, which includes replacement of four disconnect switches, and install a new control house to accommodate communications and protective relays. The proposed arrangement, which also includes installation of circuit breakers, transformers and related equipment, expands the Fentress Substation entirely within Company-owned property. Based on conceptual design, in order to expand the Fentress Substation to the north and accommodate the routing of existing Line #2128 into the station, two structures (Structures #2128/1 and #2128/2) will be removed and replaced with four new structures (Structures #2128/1, #2128/1A, #2128/1B, and #2128/2), all entirely within existing right-of-way or on Company-owned property.<sup>10</sup> Additionally, the Company proposes to remove three 500 kV structures (Structures #588/254, #588/255, and #588/256) and replace with two new 500 kV structures (Structures #588/254 and #588/255). Proposed Structure #588/255 is a backbone structure and will be located inside Fentress Substation, while proposed Structure #588/254 will be in existing right of way to the west of Fentress Substation.<sup>11</sup>

16. The proposed Virginia Facilities represent the minimal amount of transmission facilities required to interconnect the CVOW Commercial Project reliably with the existing transmission system consistent with Dominion Transmission's Facility Interconnection Requirements, which are a required NERC Reliability Standard, and Dominion Transmission's reliability criteria. These requirements are in addition to those determined as part of the PJM generation queue process as described in PJM Manual 14A: New Services Request Process.

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<sup>10</sup> The Company considers the removal of two structures supporting existing 230 kV Line #2128 (Structures #2128/1 and #2128/2) and replacement with four new structures (Structures #2128/1, #2128/1A, #2128/1B, and #2128/2), all entirely within existing right-of-way or on Company-owned property for the purposes of expanding the Fentress Substation to the north and accommodating the routing of Line #2128 into the station as described in this filing, to qualify as "ordinary extensions or improvements in the usual course of business" pursuant to Va. Code § 56-265.2 A 1 and, therefore, does not require approval pursuant to Va. Code § 56-46.1 B or a CPCN from the Commission. Should the Commission determine that a CPCN is required for the work associated with this limited work as described herein, the Company requests that the Commission grant such CPCN as part of its final order in this proceeding.

<sup>11</sup> The Company considers the removal of three structures supporting existing 500 kV Line #588 (Structures #588/254, #588/255, and #588/256) and replacement with two new 500 kV structures (Structures #588/254 and #588/255) within Company-owned property or existing right-of-way for the purposes of expanding the Fentress Substation to the north, as described in this filing, to qualify as "ordinary extensions or improvements in the usual course of business" pursuant to Va. Code § 56-265.2 A 1 and, therefore, does not require approval pursuant to Va. Code § 56-46.1 B or a CPCN from the Commission. Should the Commission determine that a CPCN is required for the work associated with this limited work as described herein, the Company requests that the Commission grant such CPCN as part of its final order in this proceeding.

17. The route of the Offshore Export Circuits, which begins approximately 3.0 miles offshore at the Virginia jurisdictional line demarcating state-owned submerged lands and extends to the proposed onshore Cable Landing Location, is subject to evaluation and approval by state and federal agencies, which includes, among others, the Bureau of Ocean Energy Management (“BOEM”), the Commonwealth of Virginia, the U.S. Army Corps of Engineers (“Corps”), the Virginia Marine Resources Commission (“VMRC”), and the City of Virginia Beach. Pursuant to consultation with these stakeholders, the Company has developed one proposed route for the Offshore Export Circuits.

18. From the Cable Landing Location to the Harpers Switching Station, the approximately 4.4-mile underground route of the Onshore Export Circuits utilizes new right-of-way that has been agreed upon by SMR, the U.S. Navy (“Navy” or “USN”), and the City of Virginia Beach, whose properties are impacted by the route. Pursuant to discussions with these stakeholders regarding use of their properties, the Company has developed one proposed underground route for the Onshore Export Circuits from the Cable Landing Location to the Harpers Switching Station. This portion of the route is also subject to review by other state and federal agencies, including BOEM, the Corps, and the City of Virginia Beach.

19. From the proposed Harpers Switching Station to the Company’s existing Fentress Substation, the approximately 14.2-mile route of the three new 230 kV Overhead Transmission Circuits utilizes a combination of new, existing, and expanded right-of-way. Following extensive study and outreach, the Company identified four routes for the segment of the new transmission lines from Harpers Switching Station to Fentress Substation, which includes three overhead routes and variations and one hybrid route (underground and overhead). The Company additionally identified an entirely underground route, which was rejected from consideration.



This portion of the route is also subject to review by other state, local, and federal agencies, including BOEM, the Corps, and the Cities of Chesapeake and Virginia Beach.

20. Accordingly, the Company is proposing the following routes for notice: one proposed route for the Offshore Export Circuits; one proposed underground route for the Onshore Export Circuits; and one proposed and two alternative overhead routes and variations, and one hybrid route (underground and overhead) for the Overhead Transmission Circuits.<sup>12</sup> Discussion of the proposed and alternative routes, as well as other routes that the Company studied but ultimately rejected, is provided in Section II of the Transmission Appendix and in the Environmental Routing Study included with the Application.

21. A more detailed description of the proposed Virginia Facilities is provided in Sections I and II of the Transmission Appendix attached to this Application.

22. The desired in-service target date for the Virginia Facilities is July 31, 2025.<sup>13</sup> The Company estimates that it will take approximately 39 months for detailed engineering, materials procurement, permitting, and construction after a final order from the Commission. Accordingly, to support this estimated construction timeline and construction plan, the Company respectfully requests a final order by August 5, 2022.<sup>14</sup> Should the Commission issue a final order by August 5, 2022, the Company estimates that construction of the Virginia Facilities

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<sup>12</sup> Subject to final engineering, coordination with landowners, and working through the BOEM process, there may be slight variations to the route or engineering design. The Company does not believe any such slight variations would require updated notice.

<sup>13</sup> Dominion Generation has indicated that it expects rolling commissioning of the CVOW Commercial Project wind turbine generators to commence in August 2025 and continue through year end 2026. See Attachment IV.B of the Generation Appendix.

<sup>14</sup> As part of this Application, the Company is seeking a CPCN for the Virginia Facilities as described herein, as well as approval of Rider OSW, pursuant to Subsection A 6 for recovery of costs associated with the CVOW Commercial Project, as described in the Generation Appendix. While there is no statutory deadline for Commission approval of the Virginia Facilities, Va. Code § 56-585.1 A 7 requires a final order be entered by the Commission on a Subsection A 6 RAC no more than nine months after the application filing date. The Company respectfully requests the CPCN be issued by the deadline for the Subsection A 6 RAC in order to support the Project construction schedule.

should begin by August 1, 2023, and be completed by July 31, 2025. This construction timeline will enable the Company to meet the targeted in-service date for the Virginia Facilities. This schedule is contingent upon obtaining the necessary permits. Dates may need to be adjusted based on permitting delays or design modifications to comply with additional agency requirements identified during the permitting application process.<sup>15</sup>

23. The estimated conceptual cost of the onshore Virginia Facilities<sup>16</sup> is approximately \$1,148.5 million, which includes approximately \$774.3 million for transmission-related work and approximately \$374.2 million for substation-related work (2021 dollars).

24. Based on consultations with the Virginia Department of Environmental Quality (“DEQ”), the Company has developed a supplement (“DEQ Supplement”) containing information designed to facilitate review and analysis of the proposed facilities by the DEQ and other relevant agencies. The DEQ Supplement is attached to this Application.

25. Based on the Company’s experience, the advice of consultants, and a review of published studies by experts in the field, the Company believes that no adverse health effects will result from the operation of the Virginia Facilities. Section IV of the Transmission Appendix provides further details on Dominion Energy Virginia’s consideration of the health aspects of electric and magnetic fields.

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<sup>15</sup> Of note, and as discussed above, the Project and onshore routes are subject to review by federal agencies. As discussed in greater detail in Section III.L of the Transmission Appendix, this process is being led by BOEM, already has begun, and currently is expected to conclude in summer of 2023. Changes to the conclusion of the BOEM-led process, or expected issuance of federal approvals thereafter, could impact the anticipated construction start date for the Virginia Facilities.

<sup>16</sup> Excludes approximately 3.0 miles of offshore cable located in Virginia’s jurisdictional boundary but includes the direct pipe construction from approximately 1,800 feet offshore to the SMR cable landing location.

26. Section V of the Transmission Appendix provides a proposed route description for public notice purposes and a list of federal, state, and local agencies and officials that the Company has or will notify about the Application.

27. In addition to the information provided in the Transmission Appendix, the DEQ Supplement, and the Environmental Routing Study, the request for approval and certification of the Virginia Facilities is supported by the pre-filed direct testimony of Company Witnesses Kevin Curtis, Peter Nedwick, Sherrill Crenshaw, Shane Moulton, Thomas Dorsey, Lane Carr, Rachel Studebaker, Robert Richardson and Jon Berkin filed with this Application and summarized below.

## **VI. RIDER OSW**

28. Code § 56-585.1 A 6 provides that a utility can petition the Commission for approval of a RAC to recover the costs of one or more generation facilities:

To ensure the generation and delivery of a reliable and adequate supply of electricity, to meet the utility's projected native load obligations and to promote economic development, a utility may at any time, after the expiration or termination of capped rates, petition the Commission for approval of a rate adjustment clause for recovery on a timely and current basis from customers of the costs of . . . (ii) one or more . . . generation facilities . . . .

29. Subsection 56-585.1:11 of the Code of Virginia ("Offshore Wind Statute" or the "Statute") addresses the development of offshore wind capacity in the Commonwealth and the Company's substantive responses to its requirements are included at relevant portions of the Generation Appendix. This Statute indicates that certain offshore wind projects—including the CVOW Commercial Project—are in the public interest as noted above.

30. In addition to determining that certain offshore wind facilities are in the public interest, the Statute also (i) contemplates cost recovery via a rate adjustment clause to be filed

pursuant to Code § 56-585.1 A 6, with costs presumed to be reasonably and prudently incurred if certain competitive solicitation, levelized cost of energy, and construction timeline benchmarks are met; (ii) requires any utility constructing an offshore wind facility to submit an economic development and workforce utilization plan; (iii) requires any utility constructing an offshore wind facility to submit an environmental and fisheries mitigation plan; and (iv) requires offshore wind projects to comply with certain competitive procurement requirements, involve at least one experienced developer, and demonstrate economic development benefits within the Commonwealth. The Statute provides that the Commission may only disallow costs if they “are otherwise unreasonably and imprudently incurred.” Pursuant to the Statute, with a few exceptions, any Project costs are non-bypassable.

31. In this Application the Company seeks Commission approval of its proposed RAC, designated Rider OSW, pursuant to Code § 56-585.1 A 6, as contemplated by Code § 56-585.1:11 C, to recover on a timely and current basis the costs incurred to construct, own, and operate the offshore generating facilities as well as associated electrical transmission and distribution facilities required to interconnect the Project.

32. The total cost of the CVOW Commercial Project is expected to be approximately \$9.8 billion, including \$1,148.5 million for the onshore Virginia Facilities.

33. The Company has engaged in a rigorous process to competitively bid and negotiate the major contracts to support the Project. In doing so, a key goal is to ensure as much price certainty as is commercially and practically reasonable, and to mitigate against risks of pricing increases or volatility. The CVOW Commercial Project is unique due to the magnitude of the need to source major equipment and labor resources from international vendors. To the extent the agreements with those counterparties require payment in foreign currencies, there are

inherent pricing risks surrounding potential fluctuations in the valuation of those currencies relative to the U.S. dollar (“USD”).

34. While the Company has attempted to mitigate these risks in its contracting strategy and negotiations, to further minimize these risks, the Company has a foreign currency hedging plan that it intends to execute, subject to the Commission finding this plan to be reasonable and prudent. Specifically, the Company intends to enter into financial hedges of foreign currency exposure via forward swaps executed shortly after Commission approval of its Foreign Currency Risk Mitigation Plan, unless market conditions dictate otherwise. This plan is addressed further in the Direct Testimony of Company Witnesses Mitchell and Lauren Adkins.

35. The Company has used a return on equity (“ROE”) of 9.20% for purposes of calculating the Rider OSW revenue requirement. This 9.20% ROE was approved by the Commission in its Final Order on November 21, 2019, in the Company’s 2019 ROE proceeding.<sup>17</sup> The Company acknowledges that the Commission will set a new ROE in the Company’s triennial review proceeding, Case No. PUR-2021-00058, and that the Commission-approved ROE will be applicable for use in the Projected Cost Recovery Factor component of the revenue requirement ultimately approved as part of this proceeding.

36. The proposed rate year for this proceeding is September 1, 2022 through August 31, 2023 (“Rate Year”). The key components of the revenue requirement are the Projected Cost Recovery Factor, the Allowance for Funds Used During Construction (“AFUDC”) Cost Recovery Factor, and the Actual Cost True-Up Factor.

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<sup>17</sup> *Application of Virginia Electric and Power Company For the determination of the fair rate of return on common equity pursuant to § 56-585.1:1 C of the Code of Virginia*, Case No. PUR-2019-00050, Final Order (Nov. 21, 2019) (“2019 ROE Proceeding”).

37. In calculating the Projected Cost Recovery Factor, which includes financing costs for rate base during the Rate Year, the end-of-test-period capital structure and cost of capital is the Company's December 31, 2020 year-end capital structure and year-end cost of capital ("Cost of Capital"). The capital expenditures and accumulated deferred income tax ("ADIT") components of rate base reflect the Virginia Jurisdiction projected balances as of August 31, 2022, the month immediately preceding the beginning of the Rate Year in this case. The revenue requirement to be recovered from Virginia Jurisdictional customers through the Projected Cost Recovery Factor will consist of projected construction capital expenditures, the projected financing costs on invested capital for the Rate Year, plus income taxes on the equity component of the return. The Projected Cost Recovery Factor revenue requirement totals \$47.510 million for Virginia Jurisdictional customers in this case.

38. The AFUDC Cost Recovery Factor represents the amortization of the unrecovered AFUDC from the beginning of the Rate Year through the end of the construction period for each site, as applicable, projected to be accrued on the Company's books for the OSW Projects. The Company's AFUDC Cost Recovery Factor revenue requirement is approximately \$31.192 million.

39. The Actual Cost True-Up Factor will either credit to, or recover from, customers any over-/under- recovery of costs from the most recently completed calendar year. Actual revenues during the test year are compared to actual costs incurred during the test year. Any difference in these amounts becomes the Actual Cost True-Up Factor credited to, or recovered from, customers through the total revenue requirement requested for recovery during the Rate Year. Since this filing represents the initial request for cost recovery for the Project, no true-up is included in this initial proceeding.

40. The total revenue requirement requested for recovery in this initial Rider OSW for the Rate Year beginning September 1, 2022 is \$78.702 million.

41. Rider OSW identifies the rate in cents per kilowatt-hour (“kWh”) that will apply to each Company rate schedule or special contract approved by the Commission pursuant to Va. Code § 56-235.2. Under Va. Code § 56-585.1:11 C 3, the costs of the CVOW Project have been allocated to all customers of the utility in the Commonwealth as a non-bypassable charge, regardless of the generation supplier of any such customer, except as provided by statute. If approved as proposed, Rider OSW would be effective for usage on and after September 1, 2022.

42. The implementation of the proposed Rider OSW on September 1, 2022, will increase the residential customer’s monthly bill, based on 1,000 kWh per month, by \$1.45. Typical monthly bill increases for customers receiving service on Residential Schedule 1, General Service Schedules GS-1, GS-2, GS-3, and GS-4, and Church Schedule 5C are provided to present proposed Rider OSW at several representative levels of consumption or demand.

43. The request for approval of Rider OSW is supported by the pre-filed direct testimony of Company Witnesses Bennett, Christopher Lee, J. Scott Gaskill, and Timothy Stuller filed with this Application and summarized below.

## **VII. FILING SCHEDULES**

44. Rule 60 of the Rate Case Rules, 20 VAC 5-204-5 *et seq.*, provides that a rate adjustment clause application “shall include Schedule 46” and, that, additionally, those “applications requiring an overall cost of capital shall include Schedules 3, 4, 5, and 8.” The Company is filing with this Application, Filing Schedules 3, 4, 5, and 8, sponsored by Company Witness Lee. Additionally, the Company is filing with this Application the information required by Schedule 46, as follows:

- A. Filing Schedule 46.b.1.i, Statements 1 through 3, are sponsored by Company Witness Bennett. These Statements provide a schedule of all projected and actual costs by type of cost and year, and by month to the extent available associated with Rider OSW.
- B. Filing Schedule 46.b.1.ii, Statement 1, is sponsored by Company Witness Bennett and addresses the transaction-level details of the Project's actual costs.
- C. Filing Schedule 46.b.1.iii, Statement 1, is sponsored by Company Witnesses Bennett, Kelly, Hollett, Larson, Nedwick, Crenshaw, Moulton, Dorsey, Carr, and Berkin. This Statement addresses the justification for the proposed costs.
- D. Filing Schedule 46.b.1.iv, consisting of Statements 1 through 5, is sponsored by multiple Company witnesses. Company Witness Kelly sponsors Filing Schedule 46.b.1.iv, Statement 1, which addresses the economic studies for the Project. Company Witness Hollett sponsors Filing Schedule 46.b.1.iv Statements 2 and 3, which address the key documents supporting the Project costs related to the generation unit. Company Witnesses Nedwick and Moulton sponsor Filing Schedule 46.b.1.iv, Statements 4 and 5, respectively, which address the key documents supporting the Project costs related to transmission.
- E. Filing Schedule 46.b.1.v, Statement 1, is sponsored by Company Witness Mitchell and provides key materials used by senior management in approving or recommending the proposed costs, as determined by the Company, for the Project.
- F. Filing Schedule 46.b.1.vi, consisting of Statements 1 through 4, is sponsored by multiple Company witnesses. Company Witness Lee sponsors Filing Schedule 46.b.1.vi, Statements 1 through 3, which provide the annual revenue requirement for the Rate Year and duration of the proposed RAC, as well as the supporting calculations. Company Witness Stuller sponsors Filing Schedule 46.b.1.vi, Statement 4, which provides the annual revenue requirement by class for the duration of the proposed RAC.
- G. Filing Schedule 46.b.1.vii, consisting of Statement 1, is co-sponsored by Company Witnesses Gaskill and Stuller, and addresses the methodology for allocating the revenue requirement among rate classes and the design of class rates.
- H. Filing Schedule 46.b.2.i, Statement 1, is sponsored by Company Witnesses Bennett, Kelly, Hollett, Larson, and Moulton, and addresses the need and justification for the proposed generating unit.
- I. Filing Schedule 46.b.2.ii, consisting of Statements 1 and 2, is sponsored by Company Witness Hollett. These Statements address the feasibility and engineering studies supporting the plant type and site selected for the proposed generating unit.
- J. Filing Schedule 46.b.2.iii, Statement 1, sponsored by Company Witness Hollett, addresses the fuel supply studies for the proposed generating unit.



- K. Filing Schedule 46.b.2.iv, Statement 1, sponsored by Company Witnesses Bennett, Kelly, Hollett, Nedwick, and Moulton, addresses the planning assumptions for the proposed generating unit.
- L. Filing Schedule 46.b.2.v, Statement 1, sponsored by Company Witness Kelly, addresses the economic studies for the proposed generating unit.
- M. Filing Schedule 46.b.2.vi, Statement 1, sponsored by Company Witnesses Bennett, Nedwick, Carr, and Berkin, addresses the projected and actual costs of the proposed generating unit.

### **VIII. PRE-FILED DIRECT TESTIMONY**

45. The Company's Application is supported by the pre-filed direct testimony of the following witnesses:

A. Company Witness Mark Mitchell, Senior Vice President – Project Construction, provides an overview of the CVOW Project, describes the need for the Company's Foreign Currency Risk Mitigation Plan and the request for approval as soon as procedurally possible, and introduces the other Company witnesses. Mr. Mitchell also sponsors a portion of Filing Schedule 46.

B. Company Witness Joshua Bennett, Vice President—Offshore Wind, describes the components of the CVOW Commercial Project, which includes all of the Project's offshore elements up to the POI at the Harpers Switching Station. He outlines the legal requirements applicable to the CVOW Commercial Project as set forth in § 56-585.1:11 and related provisions of Code § 56-585.1 A 6 of the Code of Virginia and presents the Company's Generation Appendix. He also addresses certain issues of particular import to the Project, including many components of the levelized cost of energy analysis and the major capital contracts executed in support of the Project. Additionally, he presents the Company's request for approval of a cost recovery rider, consistent with Code § 56-585.1:11 C and pursuant to Code § 56-585.1 A 6, and sponsors various portions of the Generation Appendix and Filing Schedule 46.

C. Company Witness Glenn Kelly, Director—Strategic Planning, presents the levelized cost of energy calculation for the Project as well as other economic analyses supporting the Project costs, including relevant sensitivities. Mr. Kelly sponsors portions of the Generation Appendix and Filing Schedule 46.

D. Company Witness Grant Hollett, Director—Offshore Wind, sponsors portions of the Generation Appendix that provide the Project overview, address information obtained from the CVOW Pilot Project and experience from industry partnerships, and provide the Project timeline. Mr. Hollett also sponsors portions of Filing Schedule 46.

E. Company Witness Lauren V. Adkins, Director, Corporate Finance, addresses foreign currency exposure risks and a plan to mitigate those risks through selected financial instruments.

F. Company Witness Scott Lawton, Environmental Technical Advisor, addresses environmental concerns and environmental justice issues, provides a report on information obtained from the CVOW Pilot Project, and sponsors related portions of the Generation Appendix.

G. Company Witness John Larson, Director—Public Policy and Economic Development, sponsors the Economic Development Plan and sponsors related portions of the Generation Appendix.

H. Company Witness J. Kevin Curtis, Vice President—Transmission, Power Delivery, provides an overview of the CVOW Commercial Project and the PJM Interconnection Queue process, the components of the Virginia Facilities, the development of routes and related outreach and stakeholder engagement.

I. Company Witness Peter Nedwick, Principal Engineer—Electric Transmission Planning, sponsors those portions of the Transmission Appendices describing the Company’s electric transmission system and the need for, and benefits of, the proposed Virginia Facilities. Additionally, Mr. Nedwick sponsors a portion of the Generation Appendix as it pertains to electric transmission planning. Mr. Nedwick also sponsors portions of Filing Schedule 46.

J. Company Witness Sherrill Crenshaw, Consulting Engineer—Electric Transmission Engineering, sponsors those portions of the Transmission Appendix providing an overview of the design characteristics of the overhead transmission facilities for the proposed Virginia Facilities, and discusses electric and magnetic field (“EMF”) levels as pertaining to those overhead facilities. Mr. Crenshaw also sponsors portions of Filing Schedule 46.

K. Company Witness Shane Moulton, Engineer III—Electric Underground Transmission Engineering, sponsors those portions of the Transmission Appendix providing an overview of the design characteristics of the underground transmission facilities for the proposed Virginia Facilities, and discusses EMF levels as pertaining to those underground facilities. Additionally, Mr. Moulton sponsors an attachment to the Generation Appendix providing an overview of the competitive bid process as it relates to certain underground facilities. Mr. Moulton also sponsors portions of Filing Schedule 46.

L. Company Witness Thomas Dorsey, Contractor—Substation Engineering, sponsors those portions of the Transmission Appendix describing the substation work to be performed for the proposed Virginia Facilities. Mr. Dorsey also sponsors portions of Filing Schedule 46.

M. Company Witness Lane Carr, Senior Siting and Permitting Specialist, sponsors those portions of the Transmission Appendix providing an overview of the route for the proposed

Virginia Facilities and related permitting. Ms. Carr additionally co-sponsors the DEQ Supplement. Ms. Carr also sponsors portions of Filing Schedule 46.

N. Company Witness Rachel Studebaker, Environmental Specialist III, sponsors those portions of the Transmission Appendix providing an overview of environmental permitting. Mrs. Studebaker additionally co-sponsors the DEQ Supplement.

O. Company Witness Robert Richardson, Communications Consultant—Electric Transmission Communications, sponsors those portions of the Transmission Appendix providing an overview of outreach and engagement with the public and interested stakeholders.

P. Company Witness Jon Berkin, Partner—Environmental Resource Management, sponsors the Environmental Routing Study provided in support of the Company’s Application. Dr. Berkin additionally co-sponsors portions of the Transmission Appendix and DEQ Supplement, as well as the environmental justice analysis provided as an attachment to the Generation Appendix. Dr. Berkin also sponsors portions of Filing Schedule 46.

Q. Company Witness Christopher Lee, Manager—Regulation, Regulatory Accounting, addresses the development of the revenue requirement associated with Rider OSW for the Rate Year of September 1, 2022, through August 31, 2023. Mr. Lee also sponsors Filing Schedule 3, 4, 5, and 8, as well as portions of Filing Schedule 46.

R. Company Witness J. Scott Gaskill, Director—Power Generation Regulated Operations, sponsors the development of the jurisdictional and customer class cost allocation factors for Rider OSW. Mr. Gaskill also sponsors portions of Filing Schedule 46.

S. Company Witness Timothy Stuller, Regulatory Specialist, sponsors Rider OSW based on the revenue requirement presented by Company Witness Lee, to be effective for usage

on and after September 1, 2022, and discusses the impact that the proposed Rider OSW rates will have on customer bills. Mr. Stuller also sponsors portions of Filing Schedule 46.

### **IX. COMPLIANCE WITH THE RATE CASE RULES**

46. Rule 60 of the Rate Case Rules provides that an application filed pursuant to Subsection A 6 “shall include Schedule 46 as identified and described in 20 VAC 5-204-90, which shall be submitted with the utility’s direct testimony.” The Company is filing with this Application, Filing Schedule 46, portions of which are sponsored by various Company witnesses, as noted above.

47. Rule 60 of the Rate Case Rules also provides that rate adjustment clause “applications requiring an overall cost of capital shall include Schedules 3, 4, 5, and 8.” These filing schedules are sponsored by Company Witness Lee.

48. The Company’s Application for approval of Rider OSW complies with the requirements contained in Rule 10 of the Rate Case Rules. In accordance with Rule 10 A, Dominion Energy Virginia filed with the Commission on August 3, 2021, the Company’s notice of intent to file this Application under Va. Code § 56-585.1 A 6. Copies of this Application, to the extent required by Rule 10 J, along with the additional information required by Rule 10 J, have been served upon the persons addressed in that Rule. A complete copy of this Application has been served upon the Office of the Attorney General’s Division of Consumer Counsel in conformity with Rule 10 J. Also included with and following this Application, pursuant to Rule 10, is a table of contents of this filing, including exhibits and schedules.

49. Beyond the initial Application, Rule 20 VAC 5-204-10 J requires the Company to serve copies of certain information related to Dominion Energy Virginia’s rate proceedings upon local officials electronically to the extent official email addresses are available, or via first class

mail or personal delivery if electronic delivery is not possible. The Company will comply with this requirement in conjunction with the Commission's forthcoming procedural order.

**X. LIMITED REQUEST FOR WAIVER OF FILING SCHEDULE 46 REQUIREMENTS**

50. The Company, for good cause shown and pursuant to 20 VAC 5-204-10 E, additionally respectfully requests that the Commission waive, in part, the requirements under Rules 60 and 90 of the Rate Case Rules with respect to paper copies of certain Filing Schedule 46 materials. Specifically, the Rate Case Rules require the Company to provide key documents, including economic analyses, contracts, studies, investigations, results from requests for proposals, and cost benefit analyses that support projected costs proposed to be recovered via the rate adjustment clause. The supporting documentation responsive to this requirement is voluminous and not easily reviewed in hard copy (paper) format. Accordingly, the Company seeks waiver of the requirement to file 12 hard copies of this information. Instead, the Company proposes to provide this documentation to Commission Staff and any other future case participants in electronic format, and provide the Commission with one hard copy and three electronic copies on compact discs ("CDs"). The Company will make the electronic documents available via an e-room contemporaneously with this filing, with immediate access available to Commission Staff. This request is consistent with the Commission's recent orders granting similar limited waivers.<sup>18</sup> Should the Commission deny this request, the Company asks for a reasonable allowance of time to print the requisite filing copies of this material and submit it to the Commission prior to the Company's application being deemed incomplete.

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<sup>18</sup> *Application of Virginia Electric and Power Company, For revision of rate adjustment clause: Rider BW, Brunswick County Power Station, for the Rate Years commencing September 1, 2022, and September 1, 2023, Case No. PUR-2021-00239, Order for Notice and Hearing at 6 (Oct. 25, 2021); see also Petition of Virginia Electric and Power Company, For approval of its annual RPS Development Plan under § 56-585.5 D 4 of the Code of Virginia and related requests, Order Granting Limited Reconsideration at 2 (Aug. 26, 2021).*

**XI. REQUEST FOR CONFIDENTIAL TREATMENT AND  
ADDITIONAL PROTECTIVE TREATMENT OF  
EXTRAORDINARILY SENSITIVE INFORMATION**

51. The Company's Application contains extraordinarily sensitive information, as designated therein. Because portions of the Company's Application contain such extraordinarily sensitive information, in compliance with Rule 10 F of the Rate Case Rules and Rule 170 of the Commission's Rules of Practice and Procedure, 20 VAC 5-204-10 F and 5 VAC 5-20-170, this filing is accompanied by a separate Motion for Entry of a Protective Order and Additional Protective Treatment, including a Proposed Protective Order, filed contemporaneously with this Application.

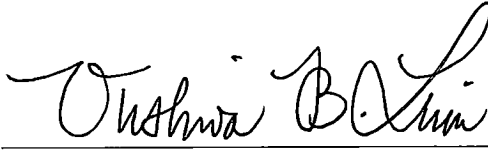
**WHEREFORE**, Dominion Energy Virginia respectfully requests that the Commission (1) find that the Company has complied with the requirements for an offshore wind project set forth in Va. Code § 56-585.1:11 C 1 for purposes of the presumption that the costs are reasonably and prudently incurred; (2) determine that the Company's Foreign Currency Risk Mitigation Plan is reasonable and prudent, as soon as procedurally possible; (3) direct that notice of the request for approval and certification of the Virginia Facilities be given as required by Va. Code § 56-46.1; (4) approve, pursuant to Va. Code § 56-46.1, the construction of the Virginia Facilities; (5) grant a certificate of public convenience and necessity for the Virginia Facilities under the Utility Facilities Act, Va. Code § 56-265.1 *et seq.*; (6) direct that notice for the proposed Rider OSW under Va. Code § 56-585.1 A 6 be given; (7) approve the proposed Rider OSW under Va. Code § 56-585.1 A 6 subject to future Rider OSW proceedings and true-ups, effective for usage on and after September 1, 2022; (8) approve the proposed revenue requirement, cost allocation, rate design, and accounting treatment for the CVOW Project for the Rate Year September 1, 2022, through August 31, 2023; (9) grant the Company's requested

waiver as to portions of Filing Schedule 46; and (10) grant such other and further relief as it deems just and proper.



Respectfully submitted,

**VIRGINIA ELECTRIC AND POWER COMPANY**

By: 

Paul E. Pfeffer  
David J. DePippo  
Dominion Energy Services, Inc.  
120 Tredegar Street  
Richmond, Virginia 23219  
(804) 787-5607 (PEP)  
(804) 819-2411 (DJD)  
*paul.e.pfeffer@dominionenergy.com*  
*david.j.depippo@dominionenergy.com*

Vishwa B. Link  
Joseph K. Reid, III  
Lisa R. Crabtree  
Timothy D. Patterson  
Jennifer D. Valaika  
April M. Jones  
McGuireWoods LLP  
Gateway Plaza  
800 East Canal Street  
Richmond, Virginia 23219-3916  
(804) 775-4330 (VBL)  
(804) 775-1198 (JKR)  
(804) 775-1327 (LRC)  
(804) 775-1069 (TDP)  
(804) 775-1051 (JDV)  
(804) 775-1042 (AMJ)  
*vlink@mcguirewoods.com*  
*jreid@mcguirewoods.com*  
*lcrabtree@mcguirewoods.com*  
*tpatterson@mcguirewoods.com*  
*jvalaika@mcguirewoods.com*  
*amjones@mcguirewoods.com*

*Counsel for Virginia Electric and Power Company*

November 5, 2021



## WITNESS DIRECT TESTIMONY SUMMARY

Witness: Mark D. Mitchell

Title: Senior Vice President, Project Construction

Summary:

Company Witness Mark D. Mitchell provides an overview of the Company's proposal to construct, own, and operate offshore wind generation facilities consisting of 176 14.7 megawatt ("MW") Wind Turbine Generators located in a federal lease area beginning approximately 27 statute miles off the coast of Virginia Beach, Virginia and their related Offshore Export Facilities, which will transport the generated electricity to the Cable Landing Location at the State Military Reservation. The generated electricity will utilize onshore transmission infrastructure (the "Virginia Facilities") to connect to the electric grid. The Company refers to these projects collectively as the Coastal Virginia Offshore Wind Commercial Project (the "CVOW Commercial Project" of "Project").

The CVOW Commercial Project has a nominal capacity of 2,587 MW and is expected to provide approximately 9,500 gigawatt-hours of carbon-free energy per year. The Project will create the opportunity to displace electricity generated by fossil fuel-powered plants and provide renewable energy credits to meet the mandatory RPS Program requirements. The Project will also offer substantial economic and environmental benefits to the Commonwealth of Virginia. Finally, the Project will meet the environmental goals set forth in the Virginia Clean Economy Act, which expressly supports the development of 2,500 to 3,000 MW of clean, reliable offshore wind energy to be in service by 2028, and to provide zero carbon resources to support the goal for 100 percent carbon-free electric energy generation by 2045.

The total cost of the CVOW Commercial Project is approximately \$9.8 billion, including all offshore and onshore components. The Project will provide customers approximately \$2.5 billion in benefits on a net present value compared to the PJM market, as well as provide other benefits as explained by Mr. Mitchell.

Mr. Mitchell also presents the Company's Foreign Currency Risk Mitigation Plan, which explains how the Company is managing cost risks associated with the major contracts supporting the Project. The Company requests that the Commission find the plan reasonable and prudent as soon as procedurally possible.

Mr. Mitchell testifies how the Company has used its experience with the Pilot project, as well as consultation with experienced developers, to develop the CVOW Commercial Project and position it for success. Mr. Mitchell also explains the major agreements supporting the CVOW Commercial Project and addresses the Company's Foreign Currency Risk Mitigation Plan as it relates to such agreements.

Finally, Company Witness Mitchell introduces the other witnesses in this proceeding.

**DIRECT TESTIMONY  
OF  
MARK D. MITCHELL  
ON BEHALF OF  
VIRGINIA ELECTRIC AND POWER COMPANY  
BEFORE THE  
STATE CORPORATION COMMISSION OF VIRGINIA  
CASE NO. PUR-2021-00142**

1 **Q. Please state your name, business address, and position with Virginia Electric and**  
2 **Power Company (“Dominion Energy Virginia” or the “Company”).**

3 A. My name is Mark D. Mitchell, and my business address is 600 East Canal Street,  
4 Richmond, Virginia 23219. I am Senior Vice President, Project Construction for  
5 Dominion Energy Services, Inc., testifying on behalf of Dominion Energy Virginia. A  
6 statement of my background and qualifications is attached as Appendix A.

7 **Q. Please describe your areas of responsibility with the Company.**

8 A. I have overall responsibility for engineering, procurement and construction of major  
9 projects, including both existing facilities and new facilities planned by Dominion Energy  
10 Virginia and its affiliates. This includes development of the Coastal Virginia Offshore  
11 Wind Commercial Project (“CVOW Commercial Project,” “CVOW” or the “Project”)  
12 presented in this proceeding. In addition, I was responsible for development and  
13 construction, as well as ongoing operations for the Company’s 12 megawatt (“MW”)  
14 Coastal Virginia Offshore Wind demonstration project (“Pilot Project”), which was  
15 approved by the Virginia State Corporation Commission (“Commission”) in Case No.  
16 PUR-2018-00121 and is now in commercial operation.

1 **Q. What is the purpose of your testimony in this proceeding?**

2 A. I am testifying in support of the Company's proposal to construct, own, and operate  
3 offshore wind generation facilities consisting of 176 14.7 megawatt ("MW") Wind  
4 Turbine Generators ("WTGs") located in a federal lease area beginning approximately 27  
5 statute miles (approximately 24 nautical miles) off the coast of Virginia Beach, Virginia  
6 ("Lease Area") and their related Offshore Export Facilities, which will transport the  
7 generated electricity to the Cable Landing Location at the State Military Reservation  
8 ("SMR") in the City of Virginia Beach, Virginia. From there, the generated electricity  
9 will utilize onshore transmission infrastructure (the "Virginia Facilities") to connect to  
10 the electric grid (collectively, the WTGs, Offshore Export Facilities, and the Virginia  
11 Facilities are the Coastal Virginia Offshore Wind Commercial Project, referred to as the  
12 "CVOW Commercial Project" or "Project").

13 Specifically, I will provide a brief overview of the key points of the Company's proposal,  
14 and I will introduce other Company witnesses, who will provide further details  
15 concerning the Project in their direct testimonies in this case.

16 **Q. Are you sponsoring an exhibit in this proceeding?**

17 A. Yes. Company Exhibit No. \_\_\_, MDM, consisting of Schedules 1-2, was prepared under  
18 my direction and supervision and is accurate and complete to the best of my knowledge.  
19 I am also sponsoring Filing Schedule 46.b.1.v.

1 **Q. How is your testimony organized?**

2 A. My testimony is organized as follows:

- 3 I. Project Background and Overview
- 4 II. Legislative and Policy Support for the Project
- 5 III. Offshore Wind Industry
- 6 IV. Need for and Benefits of the Project
- 7 V. Project Strategic Advisors
- 8 VI. Foreign Currency Risk Mitigation Plan
- 9 VII. Introduction of Witnesses and Final Comments

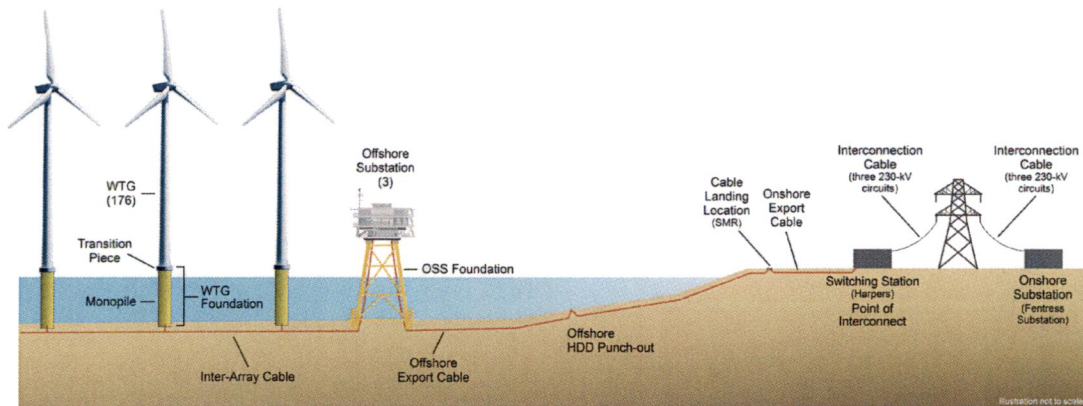
10 **I. PROJECT BACKGROUND AND OVERVIEW**

11 **Q. Please provide an overview of the proposed CVOW Commercial Project.**

12 A. As noted above, the CVOW Commercial Project encompasses offshore wind generation  
13 facilities consisting of 176 14.7 MW WTGs located in the Lease Area beginning 27  
14 statute miles off the coast of Virginia Beach, Virginia as well as related Offshore Export  
15 Facilities, which will transport the generated electricity to the Cable Landing Location at  
16 SMR in the City of Virginia Beach, Virginia, and then to the Harpers Switching Station  
17 at Naval Air Station Oceana, which is the point of interconnection (“POI”) for the  
18 Project. The Project has a nominal capacity of 2,587 MW and is expected to provide  
19 approximately 9,500 gigawatt-hours (“GWh”) of carbon-free energy per year. Figure 1,  
20 below, provides a basic overview of the CVOW Commercial Project components.

1

**Figure 1: Basic Commercial CVOW Commercial Project Components**



2

3 **Q. Why is the Company proposing the CVOW Commercial Project?**

4 A. Broadly speaking, we are proposing the Project for three reasons:

- 5 1) To provide more than 2,500 MW of clean, reliable offshore wind energy to
- 6 Virginia consumers and create the opportunity to displace electricity generated by
- 7 fossil fuel-powered plants and provide renewable energy credits to meet
- 8 mandatory Renewable Portfolio Standards (“RPS”) Program requirements;
- 9 2) To offer substantial economic and environmental benefits to the Commonwealth
- 10 of Virginia; and
- 11 3) To meet the environmental goals as set forth in the Virginia Clean Economy Act
- 12 (“VCEA”), which expressly supports development of 2,500 to 3,000 MW of
- 13 clean, reliable offshore wind energy to be in service by 2028, and to provide zero
- 14 carbon resources to support the VCEA’s goal for 100 percent carbon-free electric
- 15 energy generation by 2045.

16 **Q. Can you elaborate on why this investment is required, in the Company’s judgment?**

17 A. Yes. Put simply, we are continuing along the path of investment in new renewable  
18 generation infrastructure called for in the VCEA. As Company Witness Glenn A. Kelly

1 further discusses, the VCEA requires the development of significant amounts of  
2 renewable energy generation in the Commonwealth, including offshore wind, and sets  
3 annual requirements for the sale of renewable energy based on a percentage of non-  
4 nuclear electric energy sold to retail customers in the Company's service territory through  
5 the RPS Program.

6 No single resource will meet this need. Rather, our integrated planning process looks  
7 across the spectrum of clean and renewable supply-side resources and technologies,  
8 wholesale market opportunities, and demand reduction alternatives to determine the  
9 preferred mix of resource options to meet the forecasted demand in line with the  
10 mandatory goals of the VCEA. The CVOW Commercial Project reflects the optimal and  
11 necessary economic and operational choice to continue to serve customers while also  
12 meeting the Commonwealth's clean energy goals.

13 **Q. Has the Company worked with interested stakeholders to develop the Project and**  
14 **select the route for the onshore transmission facilities?**

15 A. Yes. The Company believes that stakeholder engagement is critical to the success of the  
16 CVOW Commercial Project. The Project has been a decade in the making, first with the  
17 development and construction of the CVOW Pilot Project, and now with the commercial  
18 Project. In this effort, the Company has continually engaged with affected parties over  
19 the last year and a half. This outreach has included both a statewide and regional  
20 approach in tribal communities; cultural and historic resource stewardship organizations;  
21 the military; maritime and fisheries organizations; the business community and workforce  
22 organizations; the environmental community; organizations that represent the needs of



1 underrepresented communities; and educational and research organizations, as well as  
2 individual property owners and community members.

3 As part of the Company's efforts to inform the Project with accurate and objective  
4 science, it engaged with the Virginia Institute of Marine and Marine Science ("VIMS"),  
5 which established a Scientific Review Committee to provide environmental science-  
6 based review and research products related to the Project.

7 The Company is committed to maintaining communications with all impacted  
8 stakeholders throughout the development and construction of the Project. We have taken  
9 stakeholder feedback into account in the development of our offshore facilities, and  
10 incorporated it into our route planning. The preferred onshore transmission route the  
11 Company presents in this case is the product of exhaustive research and communication,  
12 and is the best option to reliably transmit electricity from the Project to shore while  
13 accounting for input from our customers and other interested parties.

14 **Q. What is the total cost of the Project?**

15 A. The project costs are divided into offshore work, onshore work, and contingencies. The  
16 offshore work is expected to be approximately \$7.8 billion, the onshore work is expected  
17 to be approximately \$1.5 billion, and contingency and hedging allowance are expected to  
18 be approximately \$500 million, resulting in a total project cost of approximately \$9.8  
19 billion. The major capital contracts and areas of expenditures constituting that amount  
20 are discussed in the direct testimony of Company Witnesses Joshua Bennett (generation)  
21 and Kevin Curtis (transmission), and through the Generation Appendix, Transmission  
22 Appendix and Rider testimonies.

1 **Q. Please explain the cost difference from previous forecasts.**

2 A. The initial forecast in 2019 was based on conceptual information while the revised  
3 expected total project cost estimates are based on advanced development, including the  
4 results of the competitive procurement process. The permitting effort has advanced with  
5 detailed applications submitted to the Bureau of Ocean Energy Management (“BOEM”)  
6 and the review schedule established. The onshore transmission route has gone through  
7 extensive stakeholder engagement with consideration given for resiliency and connection  
8 into the existing 500 kV system, as well as to minimize impacts on the surrounding  
9 communities, including environmental justice communities, private lands, and  
10 environmental, scenic, and historic resources. Recent trends in commodities, currency  
11 exchange rates, and the general supply chain have been incorporated in the project  
12 estimate and contingencies. The offshore work increased in cost by approximately 4%,  
13 which is less than the approximately 10% impacts due to currency and commodities since  
14 2019. The onshore work cost projection increased by approximately \$1B due to  
15 aforementioned further development.

16 **Q. How does this cost compare to other market alternatives?**

17 A. First, it is important to recognize that there are no available market alternatives that  
18 would provide the same generation profile as over 2,500 MW of offshore wind. The  
19 CVOW Commercial Project is estimated to provide energy during night hours both in  
20 summer and winter when solar generation is not available. This Project is also expected  
21 to provide additional energy in winter and shoulder months of the year when solar  
22 generation is reduced.

1 That said, as detailed in the direct testimony of Company Witness Glenn A. Kelly, this  
2 Project will provide customers approximately \$2.5 billion in benefits on a net present  
3 value as compared to purchasing energy and capacity from the PJM market.

4 Additionally, the VCEA instructs that an appropriate cost comparison for offshore wind  
5 is the Project's total levelized cost of energy ("LCOE") in reference to the comparable  
6 cost of a conventional simple cycle combustion turbine generating facility. Specifically,  
7 it states that the LCOE should not exceed 1.4 times that cost as estimated by the U.S.  
8 Energy Information Administration in its Annual Energy Outlook 2019, or \$125 per  
9 MWh in 2018 dollars. As supported by Company Witnesses Bennett and Kelly, the  
10 CVOW Commercial Project's LCOE of \$87 per MWh in 2027 dollars is well within this  
11 cost governor established by the Commonwealth. Should the federal production tax  
12 credit be expanded through future legislation, the Project's LCOE would drop to \$80 per  
13 MWh in 2027 dollars.

14 **Q. Are the current Project cost estimates reliable?**

15 A. Yes. The Company has taken all commercially reasonable actions to minimize risk to  
16 Project costs. All major contracts supporting Project costs have been competitively bid.  
17 In fact, \$7.6 billion, or 86% of the \$8.9 billion of total Project costs, exclusive of  
18 interconnection costs, for the offshore and onshore Project components to the POI have  
19 been competitively bid. I discuss the commodity indexing and foreign currency risk later  
20 in my testimony. For the estimated \$670 million for the onshore Project components  
21 from the POI to Fentress Substation, the Company will proceed to bid those items as it  
22 does in the normal course of overhead transmission project construction, which the

1 transmission construction teams typically conduct after detailed design, permitting, and  
2 environmental approvals are completed.

3 **Q. How has the Company prepared to successfully construct, own, and operate this**  
4 **Project?**

5 A. The CVOW Commercial Project has been more than a decade in the making, with the  
6 most significant prior step being the Pilot Project. Indeed, the 12 MW offshore wind  
7 Pilot Project came in under budget and went into operation ahead of schedule. It  
8 provided the Company invaluable experience, including:

- 9 • Negotiating and contracting within the global offshore wind industry;
- 10 • More than a year's worth of operational data supporting production  
11 assumptions, including a better than projected capacity factor;
- 12 • Learning how to approach maintaining generation assets in an offshore  
13 environment, which entails particular challenges with safely transporting  
14 people and materials 27 miles offshore;
- 15 • Complying with BOEM regulations and inspections;
- 16 • Detailed cable route surveying in the ocean floor; and
- 17 • Subsea data regarding environmental impact.

18 The Company prepared a comprehensive report of relevant data and experience gained  
19 from construction and operation of the Pilot Project, which is included as part of the  
20 Generation Appendix at Attachment II.A. This report further details the experience  
21 gained through that project. While the CVOW Commercial Project will be constructed to  
22 a different scale and scope than the Pilot Project, the Company has used its many

1 experiences learned through the Pilot Project to develop the CVOW Commercial Project  
2 and position it for success.

3 **Q. You noted that the Pilot Project has experienced a better-than-projected capacity**  
4 **factor. Please explain.**

5 A. The Pilot Project was projected to have a lifetime average capacity factor of 41.5% based  
6 on National Renewable Energy Laboratory (“NREL”) data (based on 100% availability).  
7 The Pilot Project has consistently outperformed that expectation, and this data has been  
8 factored into the capacity factor for the Project.

9 **Q. How has the Company considered Environmental Justice in planning for this**  
10 **Project?**

11 A. In developing its Project design, the Company considered input from stakeholder groups  
12 regarding community considerations, critical historic and environmental resources,  
13 regional development and land use, and commercial and recreational fishing. Meaningful  
14 involvement amongst environmental justice sensitive communities, in line with the  
15 Company’s Environmental Justice Policy and stakeholder expectations, was achieved in  
16 addition to general stakeholder engagement. Section III.B of the Transmission Appendix,  
17 included with this filing, addresses these issues in greater detail.

## 18 **II. LEGISLATIVE AND POLICY SUPPORT FOR THE PROJECT**

19 **Q. Please describe the Virginia legislative developments supporting the Project.**

20 A. In 2010, the Virginia General Assembly passed legislation under Title 67, Chapter 12, of  
21 the Code of Virginia (“Va. Code” or “Code”) to create the Virginia Offshore Wind

1 Development Authority to help facilitate offshore wind energy development in the  
2 Commonwealth.

3 During its 2018 and 2020 legislative sessions, the General Assembly passed the Grid  
4 Transformation and Security Act (“GTSA”) and VCEA, respectively, which amended  
5 and added multiple provisions to the Code expressing the General Assembly’s and the  
6 Commonwealth’s support for offshore wind through public interest declarations.

7 Specifically, Va. Code § 56-585.1 A 6 indicates in relevant part,

8 In connection with planning to meet forecasted demand for electric  
9 generation supply and assure the adequate and sufficient reliability  
10 of service, consistent with § 56-598, planning and development  
11 activities for a new utility-owned and utility-operated generating  
12 facility or facilities utilizing energy derived from sunlight or from  
13 onshore or offshore wind are in the public interest.

14 Notwithstanding any provision of Chapter 296 of the Acts of  
15 Assembly of 2018, construction, purchasing, or leasing activities for  
16 a new utility-owned and utility-operated generating facility or  
17 facilities utilizing energy derived from sunlight or from onshore  
18 wind with an aggregate capacity of 16,100 megawatts, including  
19 rooftop solar installations with a capacity of not less than 50  
20 kilowatts, and with an aggregate capacity of 100 megawatts,  
21 together with a utility-owned and utility-operated generating facility  
22 or facilities utilizing energy derived from offshore wind with an  
23 aggregate capacity of not more than 3,000 megawatts, are in the  
24 public interest.

Va. Code § 56-585.1:4 A provides further,

25 Notwithstanding any provision of Chapter 296 of the Acts of  
26 Assembly of 2018, construction, purchasing, or leasing activities for  
27 a new utility-owned and utility-operated generating facility or  
28 facilities utilizing energy derived from sunlight or from onshore  
29 wind with an aggregate capacity of 16,100 megawatts, including  
30 rooftop solar installations with a capacity of not less than 50  
31 kilowatts, and with an aggregate capacity of 100 megawatts,  
32 together with a utility-owned and utility-operated generating facility  
33 or facilities utilizing energy derived from offshore wind with an

1 aggregate capacity of not more than 3,000 megawatts, are in the  
2 public interest.

3 Va. Code § 56-585.1:11 B states,

4 In order to meet the Commonwealth’s clean energy goals, prior to  
5 December 31, 2034, the construction or purchase by a public utility  
6 of one or more offshore wind generation facilities located off the  
7 Commonwealth’s Atlantic shoreline or in federal waters and  
8 interconnected directly into the Commonwealth, with an aggregate  
9 capacity of up to 5,200 megawatts, is in the public interest and the  
10 Commission shall so find, provided that no customers of the utility  
11 shall be responsible for costs of any such facility in a proportion  
12 greater than the utility's share of the facility.

13 Finally, Va. Code § 56-585.1:11 C 1 provides,

14 Pursuant to subsection B, construction by a Phase II Utility of one  
15 or more new utility-owned and utility-operated generating facilities  
16 utilizing energy derived from offshore wind and located off the  
17 Commonwealth's Atlantic shoreline, with an aggregate rated  
18 capacity of not less than 2,500 megawatts and not more than 3,000  
19 megawatts, along with electrical transmission or distribution  
20 facilities associated therewith for interconnection is in the public  
21 interest. In acting upon any request for cost recovery by a Phase II  
22 Utility for costs associated with such a facility, the Commission  
23 shall determine the reasonableness and prudence of any such costs,  
24 provided that such costs shall be presumed to be reasonably and  
25 prudently incurred if the Commission determines that (i) the utility  
26 has complied with the competitive solicitation and procurement  
27 requirements pursuant to subsection E; (ii) the project’s projected  
28 total levelized cost of energy, including any tax credit, on a cost per  
29 megawatt hour basis, inclusive of the costs of transmission and  
30 distribution facilities associated with the facility’s interconnection,  
31 does not exceed 1.4 times the comparable cost, on an unweighted  
32 average basis, of a conventional simple cycle combustion turbine  
33 generating facility as estimated by the U.S. Energy Information  
34 Administration in its Annual Energy Outlook 2019; and (iii) the  
35 utility has commenced construction of such facilities for U.S.  
36 income taxation purposes prior to January 1, 2024, or has a plan for  
37 such facility or facilities to be in service prior to January 1, 2028.  
38 The Commission shall disallow costs, or any portion thereof, only if  
39 they are otherwise unreasonably and imprudently incurred. In its  
40 review, the Commission shall give due consideration to (a) the  
41 Commonwealth’s renewable portfolio standards and carbon

1 reduction requirements, (b) the promotion of new renewable  
2 generation resources, and (c) the economic development benefits of  
3 the project for the Commonwealth, including capital investments  
4 and job creation.

5 In sum, the Commonwealth has indicated that offshore wind is a clear priority as we  
6 navigate towards a clean energy future.

7 **Q. Does the CVOW Commercial Project also contribute to the Commonwealth Clean  
8 Energy Policy stated in Va. Code § 45.2-1706.1?**

9 A. Yes. The Commonwealth Clean Energy Policy seeks to reach net-zero emissions in all  
10 sectors, including electric power, by 2045. Additionally, Va. Code § 45-1706.1 C 4  
11 declares it is “the policy of the Commonwealth” to, among other things, “[i]ncrease wind  
12 energy development and grow the Commonwealth’s role as a wind industry hub for  
13 offshore wind generation projects in state and federal waters off the United States coast.”  
14 Both of these objectives are supported by the CVOW Commercial Project.

15 **Q. Are there additional laws or regulations that reinforce support for the Project?**

16 A. Yes. As discussed below and in detail in the pre-filed direct testimony of Company  
17 Witness Glenn A. Kelly, Virginia laws restricting the construction of fossil-fueled  
18 generating resources means that the Commonwealth must meet its energy needs through  
19 nuclear generation, renewable energy like wind and solar, and battery storage. Dominion  
20 Energy Virginia needs to pursue an all-of-the-above approach to establish a new clean  
21 generation portfolio capable of reliably meeting customers’ energy needs year-round and  
22 around the clock.



1 The Company has constructed approximately 935 MW of utility scale renewable  
2 resources including the CVOW Pilot Project and solar facilities. It is an important and  
3 prudent step to develop offshore wind technology through deployment of the CVOW  
4 Commercial Project to add an additional 2,587 MW nominal of carbon-free generation to  
5 the Company's supply mix.

### 6 III. OFFSHORE WIND INDUSTRY

7 **Q. Please discuss the current state of the U.S. offshore wind industry.**

8 A. Seven wind turbines currently operate offshore in American waters, including five  
9 turbines at Block Island, located in Rhode Island state waters, and the two Pilot Project  
10 turbines located in federal waters, but more than 1,500 are in planning or development  
11 stages from North Carolina to Massachusetts throughout 17 federally leased areas off the  
12 coasts of eight U.S. states. This industry is truly taking off.

13 BOEM completed its review of a Construction and Operations Plan ("COP") for the  
14 Vineyard Wind project earlier this year and is currently reviewing nine additional COPs  
15 (including the CVOW Commercial Project COP) with plans to complete the review of at  
16 least another six by 2025, for a total of at least 16 COP reviews representing more than  
17 19 gigawatts ("GW") of carbon-free energy. BOEM also continues to identify additional  
18 lease areas which will be auctioned in support of the Biden Administration's goal to  
19 deploy 30 GW of offshore wind by 2030.

1 **Q. What are the different development paths being proposed by developers of offshore**  
2 **wind in the U.S.?**

3 A. The development path of all U.S. offshore wind installations is similar in that it is largely  
4 dictated by the BOEM and federal permitting processes, which require detailed project  
5 information and pre-construction investigation. These processes are explained in detail in  
6 section III.L of the Transmission Appendix included with this filing.

7 **IV. NEED FOR AND BENEFITS OF THE PROJECT**

8 **Q. Why is the Company proposing to undertake the CVOW Commercial Project at**  
9 **this time?**

10 A. As noted above, the U.S. has ambitious offshore wind build plans, as does the rest of the  
11 world. The timing of the CVOW Commercial Project is designed to lock in scarce  
12 manufacturing and transportation slots as well as meet statutory objectives. Any delay in  
13 obtaining the necessary approvals for the Project would make contracting for supplies  
14 more difficult, as there are a limited number of suppliers in the world for offshore wind  
15 equipment.

16 **Q. Please describe how the Project is needed to comply with the VCEA.**

17 A. As a renewable generation resource, the CVOW Commercial Project will produce  
18 renewable energy credits (“RECs”) that the Company can use to meet its annual RPS  
19 Program requirements. One REC is generated from every one megawatt-hour (“MWh”)  
20 of energy generated. As detailed by Company Witness Kelly, in 2030 the estimated  
21 annual need for RECs will exceed 20,000 GWh. With a nominal capacity of 2,587 MW,  
22 the CVOW Commercial Project is expected to provide approximately 9,500 GWh, which  
23 will account for approximately 47% of the Company’s REC requirement in 2030.

1 Company Witness Kelly further details the Project’s contributions towards VCEA  
2 compliance in his direct testimony.

3 **Q. In addition to compliance, what other benefits does the Project provide?**

4 A. Offshore wind provides multiple opportunities for our customers and the Commonwealth  
5 as follows:

- 6 • **Scalability** – Virginia has a large consistent area for offshore wind deployment,  
7 which allows standardized installation approaches and scalability of project and  
8 turbine sizing. The Project is proposed as a development of 176 WTGs sized at 14.7  
9 MW each. As there are no barriers to access in the ocean, such as onshore wind  
10 farms may experience, the scalability of this Project has been maximized.
- 11 • **Viewshed and Land Use** – The CVOW Commercial Project will be located  
12 approximately 27 miles offshore. Due to the distance from shore, and the curvature  
13 of the earth, the turbines will be difficult to see by someone standing on the shore.  
14 Additionally, installation of the Project in the ocean means that it will not consume  
15 land within the Commonwealth that could be put to other uses.
- 16 • **Energy Generation** – Offshore wind has more consistent capacity throughout a  
17 given day and throughout the year. This is in contrast to solar, which generates  
18 mostly during the day and the summer season. Company Witness Kelly addresses  
19 these generation profiles in further detail.
- 20 • **Future Economic Development** – The Hampton Roads area has the ideal port assets  
21 and a talented workforce to attract and house a future offshore wind business supply  
22 chain to support not only Virginia’s commercial wind area, but also other wind farms  
23 under development on the East Coast. For example, the Company signed an

1 agreement with the Port of Virginia for a long-term lease of the Portsmouth Marine  
2 Terminal for staging and pre-assembly of turbine components. This work is expected  
3 to meaningfully engage the Hampton Roads-based maritime and construction supply  
4 chain to support its scope of work, and is likely to result in 55-60 new full time jobs.  
5 The Company also has an agreement with Siemens Gamesa Renewable Energy  
6 (“SGRE”) to establish the first offshore wind turbine blade facility in the United  
7 States. This factory, along with SGRE operation and maintenance jobs on the  
8 Project, is expected to create approximately 310 new jobs. The Company has also  
9 assembled a “Virginia Supply Chain Team” which will work with major equipment  
10 suppliers and service providers to identify and maximize second- and third-tier  
11 subcontractor opportunities for Virginia hiring. More detail on future economic  
12 development benefits of the Project is provided in the Company’s Economic  
13 Development Plan, included as Generation Appendix Attachment VI.A.

- 14 • **Fossil Generation Displacement** – As a renewable generation resource, the Project  
15 output will displace an equivalent amount of electric energy from conventional fossil  
16 generating units.
- 17 • **Environmental Benefits** – The megawatt hours generated from the CVOW  
18 Commercial Project will provide environmental benefits in the form of improved air  
19 quality, as reduced generation in conventional plants will mean reduced emissions of  
20 particulates, acid rain precursors (*e.g.*, NO<sub>x</sub> and SO<sub>2</sub>), and greenhouse gasses (*e.g.*,  
21 CO and CO<sub>2</sub>). Indeed, the Company has calculated that this Project will displace as  
22 much as 5 million metric tons of CO<sub>2</sub> annually.

1 **V. PROJECT STRATEGIC ADVISORS**

2 **Q. Va. Code § 56-585.1:11 E requires the Project to involve at least “one experienced**  
3 **developer.” How has the Company satisfied this requirement?**

4 A. In addition to relying on its own experience with the CVOW Pilot Project, the Company  
5 is consulting with several experienced developers with a track record in windfarm design,  
6 construction, and operations. Ramboll, an engineering consulting firm, is serving as the  
7 Owner’s Engineer for the Project. Ramboll has more than 30 years of experience in the  
8 global wind industry. It offers a full range of services covering the lifecycle of a project,  
9 from planning and project development to design, procurement, implementation and  
10 follow up on operations and maintenance. The Company has additionally engaged  
11 Merkur Offshore as a strategic advisor. Merkur Offshore develops, owns, and operates  
12 offshore wind facilities. Merkur provides advice on market conditions, contract structure,  
13 risk mitigation and operation of wind farms. The Company is finalizing an agreement  
14 with SGRE for a long-term service agreement in support of the operations and  
15 maintenance of the Project. SGRE has over 3,400 offshore wind turbines with a capacity  
16 of 15.2 GW installed worldwide and they bring a vast array of experience to the Project.  
17 The Company also gained valuable experience working with Orsted in its role as the  
18 offshore contractor for the Pilot Project and continues to rely on insight and lessons  
19 learned from the Pilot Project.

20 **Q. Why did the Company not pursue a full engineering, procurement, and construction**  
21 **(“EPC”) contract for the CVOW Commercial Project?**

22 A. The size of the Project limits the ability of any single contractor to provide sufficient  
23 financial assurance for a wrap EPC. The Company’s approach is consistent with the

1 industry norm, which is to manage the Project in individually-contracted packages.

2 **Q. Do you believe that the Company, in conjunction with its strategic advisors, is well-**  
3 **qualified to achieve a successful Project outcome?**

4 A. Yes. The Company has partnered with some of the most experienced companies in the  
5 global offshore wind market for this Project. We are confident we have assembled a  
6 world-class team dedicated to this Project's success.

7 **VI. FOREIGN CURRENCY RISK MITIGATION PLAN**

8 **Q. Mr. Mitchell, does the Company have a plan to mitigate cost risks for customers**  
9 **associated with changes in foreign currency valuations?**

10 A. Yes. As detailed in my and Company Witness Bennett's pre-filed direct testimony, the  
11 Company has engaged in a rigorous process to negotiate the major contracts to support  
12 the Project, consistent with prior generation and other infrastructure projects which have  
13 been brought before this Commission. In doing so, a key goal is always to ensure as  
14 much price certainty as is commercially and practically reasonable, and to mitigate  
15 against risks of pricing increases or volatility, all for the benefit of our customers who  
16 ultimately fund these investments. The CVOW Commercial Project is relatively unique  
17 compared to prior projects in that respect because of the magnitude of the need to source  
18 major equipment and labor resources from international vendors. To the extent the  
19 agreements with those counterparties require payment by the Company in foreign  
20 currencies, there are inherent pricing risks surrounding potential fluctuations in the  
21 valuation of those currencies relative to the U.S. dollar. We have evaluated those risks  
22 and attempted to mitigate them in our contracting strategy and negotiations. To further  
23 minimize those risks for customers, the Company has a Foreign Currency Risk

1 Mitigation Plan, which it has developed and that it intends to execute, subject to the  
2 Commission finding this plan to be reasonable and prudent as soon as procedurally  
3 possible.

4 **Q. Please further explain how the Company managed cost risks associated with the**  
5 **major contracts supporting the CVOW Commercial Project.**

6 A. As addressed in detail by Company Witness Bennett, the substantial majority of Project  
7 costs are secured by five major contracts: (i) the Turbine Generator and Tower Supply,  
8 Installation, and Commissioning (“TSA”) with SGRE; (ii) the Balance of Plant  
9 Engineering, Procurement, Transportation, and Installation Services (“BOP”) with  
10 DEME Offshore US, LLC / Prysmian Cables and Systems USA, LLC (“DEME-PRY”);  
11 (iii) Offshore Substation Design and Supply with a joint venture between Bladt Industries  
12 Virginia Offshore Wind, LLC (“Bladt”) and SEMCO Maritime Renewables II, LLC  
13 (“SEMCO”); (iv) Foundations (Monopiles) with EEW Special Pipe Constructions GmbH  
14 (“EEW”); and (v) the Foundations (Transition Pieces) contract, also with Bladt.

15 In negotiating the best agreements for the Company and our customers, we followed our  
16 standard procedures to obtain favorable and secure terms for the equipment and  
17 manpower required to build this Project. While the Company’s record of performance in  
18 the development of the projects previously brought before the Commission has been  
19 outstanding, there is no doubt that any construction activity of this magnitude has  
20 inherent risks, including for the CVOW Commercial Project, the fact that some costs will  
21 be subject to foreign currency and commodity fluctuations.

1 **Q. Please elaborate on the foreign currency risks associated with the Project's**  
2 **agreements.**

3 A. The CVOW Commercial Project has exposure to volatility in foreign currency because  
4 the agreements noted above contain payment obligations based on a mix of U.S. dollars  
5 (“USD”), Euros, and Danish Kroner (“Kroner” or “kr”). Although the Company  
6 successfully negotiated fixed price contracts for the major Project components, when the  
7 exchange rate between the USD and the various foreign currencies changes, the  
8 equivalent USD contract price will fluctuate even though the foreign currency component  
9 is fixed. The cost figures presented in the Company’s Application and supporting  
10 materials for this filing are based on the currency exchange rates at the end of July 2021,  
11 when the exchange rate was approximately \$1.1818 per Euro.

12 **Q. What are the Company’s options to mitigate against this foreign currency risk?**

13 A. There are two primary avenues to mitigate risk. First, the Company can, to the greatest  
14 degree practicable, negotiate USD-based supplier contracts to minimize the total currency  
15 exposure. Second, the Company can structure a hedge with the supplier or a financial  
16 institution for a fee to offset the currency exposure. The direct testimony of Company  
17 Witness Lauren Adkins addresses these options in further detail.

18 The Company concluded that the optimal pricing risk mitigation for the Project will  
19 include an economic mix of USD-based supplier contracts and financial hedging of  
20 remaining currency valuation risk through the supplier itself or financial institutions.  
21 Accordingly, where possible, the Company negotiated Project agreements such that they  
22 were subject to a fixed price in USD. Where it was not possible to do so, the Company  
23 attempted to secure hedges of foreign currency exposure through the supplier itself.



1 Where it was not possible to secure the hedge through the supplier itself or it was too  
2 costly to do so, the Company expects to negotiate financial hedges for contracts where  
3 foreign currency exposure exists through financial institutions shortly after Commission  
4 approval of the Foreign Currency Risk Mitigation Plan further described by Company  
5 Witness Adkins.

6 **Q. What is the Company's current estimate of foreign currency exposure related to**  
7 **Project agreements?**

8 A. The total Euro exposure on the Project between the five major contracts is approximately  
9 €2.876 billion (euro), which is approximately \$3.399 billion at an exchange rate of  
10 \$1.1818 per Euro. There is an additional exposure to approximately 3,895 million kr,  
11 which is approximately \$622 million at an exchange rate of \$0.1597 per kr. See my  
12 Extraordinarily Sensitive Schedule 2 for a detailed explanation regarding this exposure.

13 **Q. Does the Company anticipate significant shifts in currency valuations that could**  
14 **impact the Project costs?**

15 A. Not specifically. Such changes, which could arise from an array of geopolitical and  
16 economic circumstances, are of course impossible to predict. And they could impact the  
17 Project costs negatively or positively if the risk remains unhedged. Our goal in executing  
18 a hedging strategy is to mitigate against currency valuation volatility. It is a cost to pay  
19 for price certainty which we believe, in the context of this Project, is an appropriate step  
20 to take for the benefit of our customers.

1 **Q. Why is the financial risk mitigation afforded by a hedging plan a benefit for**  
2 **customers which this Commission should consider?**

3 A. As I mentioned, the ultimate cost of the Project here is dependent on future currency  
4 market valuations, and that is a factor which is outside of the Company's control absent  
5 the risk mitigation plan we are presenting. Customers benefit from the lowest reasonable  
6 cost for the Project, and they also benefit from cost certainty. Similar to a fuel hedging  
7 strategy, for example, customers benefit from avoiding volatility in costs due to market  
8 conditions which can negatively impact their ultimate cost of service. In the context of a  
9 large, long-lived construction project such as this one, it is prudent to attempt to fix the  
10 costs—to assure price certainty—to the greatest extent reasonable and practicable. While  
11 the hedging plan is not strictly required to complete the Project, the Company believes  
12 that its incremental cost, balanced against the value of protecting against the potential for  
13 a significant price spikes due to adverse currency valuation swings, is a reasonable and  
14 prudent investment on behalf of the customer.

15 **Q. How is the risk mitigation expense with respect to this currency exposure treated**  
16 **within projected Project costs?**

17 A. As noted earlier in my testimony, the Company anticipates entering into financial hedges  
18 with U.S. financial institutions upon Commission approval of the risk mitigation plan.  
19 Within the Project cost report, included with this filing as Schedule 2 to Company  
20 Witness Bennett's direct testimony, the Company has budgeted **[BEGIN**  
21 **EXTRAORDINARILY SENSITIVE INFORMATION]** [REDACTED] **[END**  
22 **EXTRAORDINARILY SENSITIVE INFORMATION]** for the cost of entering into  
23 these hedges. Company Witness Adkins addresses this cost estimate in further detail.

1 **Q. To summarize, do you believe the proposed hedging strategy and projected costs are**  
2 **reasonable and prudent in support of the CVOW Commercial Project?**

3 A. Yes, I do. As I noted earlier in my testimony, the Company's negotiation of agreements  
4 in support of this large-scale generation project was similar to other Dominion Energy  
5 Virginia construction projects in that we sought to secure competitively bid fixed price  
6 contracts with experienced suppliers. The Company was successful in doing so with two  
7 exceptions, the foreign currency exchange rate and commodity risk which I discuss  
8 further below. As such, the plan to enter into financial hedges on foreign currency  
9 volatility is prudent because it mitigates that risk. Said another way, the hedging cost  
10 estimate is a proxy for the cost to secure fixed USD-denominated contracts with all of the  
11 major Project suppliers. Doing so minimizes the risk of future Project cost increases due  
12 to foreign currency fluctuations.

13 The Company is requesting the Commission to approve the Company's Foreign Currency  
14 Risk Mitigation Plan, as soon as procedurally possible, as more fully described in  
15 Witness Adkins's direct testimony as soon as procedurally possible, and to permit  
16 recovery of the costs of doing so as part of the total Project cost at the appropriate time  
17 through the Rider.

18 **Q. Will the Company execute on its hedging plan in advance of a determination by this**  
19 **Commission that the plan is reasonable and prudent?**

20 A. While it is the judgment of the Company's management that this is an appropriate  
21 Foreign Currency Risk Mitigation Plan, we likewise appreciate the magnitude of this  
22 groundbreaking Project and the Commission's authority over many aspects of its  
23 approval. As such, while the Company believes that executing on this Plan at the earliest

1 opportunity is in the best interests of its customers, it intends to await a Commission  
2 determination of reasonableness and prudence of the Foreign Currency Risk Mitigation  
3 Plan before doing so.

4 **Q. Would the Company execute on this Plan as soon as the Commission were to issue**  
5 **such a finding?**

6 A. Yes. We realize that certain decisions by the Commission with respect to this filing have  
7 a statutory timeline for resolution, and others do not. The Company would intend to  
8 enter into the Foreign Currency Risk Mitigation Plan described by Company Witness  
9 Adkins as soon as practicable after a finding by the Commission that it is prudent to do  
10 so.

11 **Q. Earlier you mentioned the Project is also subject to commodity risk. Please explain.**

12 A. Certainly. The Company has identified that the Project also has approximately \$802  
13 million of commodity exposure related to steel and approximately \$184 million related to  
14 other commodities such as aluminum, copper, and fuel. Risk mitigation options for  
15 commodity exposure are the same as with foreign currency. However, the Company  
16 does not currently anticipate the need to hedge against this risk mainly due to the timing  
17 of the exposure.

18 Specifically, the Company's commodity risk exposure is limited to the time period  
19 between when the supply contracts were executed (*i.e.*, Q3/Q4 2021) and when the  
20 Project is approved so that fixed prices can be locked in. Assuming the CVOW  
21 Commercial Project receives regulatory approval by August 2022, the Company can  
22 finalize purchase prices by the end of 2022, thus limiting the timeframe when commodity

1 exposure is a risk. Accordingly, we do not believe the commodity exposure is a  
2 significant long-term risk to Project costs and do not currently project the need to hedge  
3 the commodity risk. The Company will carefully monitor steel prices, however, while  
4 this proceeding is pending in case circumstances change.

## 5 VII. INTRODUCTION OF WITNESSES AND FINAL COMMENTS

### 6 Q. What Company witnesses are also filing direct testimony in this case?

7 A. In addition to my testimony, the Company's Petition in this proceeding is supported by  
8 the direct testimony of the following witnesses:

- 9 • Joshua J. Bennett – *Presents an overview of the Generation components of the*  
10 *Project, the Generation Appendix, the levelized cost of energy, and major*  
11 *competitively bid contracts*
  
- 12 • Glenn A. Kelly – *Discusses the levelized cost of energy and economic*  
13 *analyses supporting the Project*
  
- 14 • Grant T. Hollett – *Provides an overview of the Project components and*  
15 *sponsors the Environmental and Fisheries Mitigation Plan, Project timeline,*  
16 *and Pilot summary report*
  
- 17 • Lauren V. Adkins – *Discusses the details of the Foreign Currency Risk*  
18 *Mitigation Plan*
  
- 19 • Scott Lawton – *Discusses environmental considerations associated with the*  
20 *Project*
  
- 21 • John Larson – *Sponsors the Economic Development Plan*
  
- 22 • J. Kevin Curtis – *Provides an overview of the Transmission aspects of the*  
23 *Project, the PJM Interconnection queue process, the Virginia Facilities, and*  
24 *the federal permitting process*
  
- 25 • Peter Nedwick – *Discusses the need for and benefit of the proposed Virginia*

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*Facilities*

- Sherrill Crenshaw – *Discusses the design characteristics of the overhead Virginia Facilities*
- Shane Moulton – *Discusses the design characteristics of the underground Virginia Facilities and related EMF levels*
- Thomas Dorsey – *Discusses substation work associated with the Virginia Facilities*
- Lane Carr – *Provides an overview of the transmission route and related permitting, and co-sponsors the DEQ Supplement*
- Rachel Studebaker – *Provides an overview of the environmental permitting process and co-sponsors the DEQ Supplement*
- Rob Richardson – *Provides an overview of the Company’s public outreach and engagement*
- Jon Berkin – *Sponsors the Environmental and Routing Study*
- Christopher Lee – *Presents the revenue requirement for Rider OSW*
- J. Scott Gaskill – *Presents cost allocation for Rider OSW*
- Timothy Stuller – *Sponsors Rider OSW and discusses rate impact*

**Q. Mr. Mitchell, do you have any concluding comments?**

A. The Company is committed to delivering energy that is clean, reliable, and affordable. The CVOW Commercial Project enables us to deliver on that mission and to meet the Commonwealth’s clean energy requirements. The General Assembly has made a determination that planning and development activities associated with offshore wind

1 facilities are in the public interest for a host of reasons reflected in the Commonwealth's  
2 Energy Policy, and Dominion Energy Virginia supports this policy intention.

3 The CVOW Commercial Project represents a real and unique opportunity not only for  
4 Dominion Energy Virginia, but also for the Commonwealth. The Company has created  
5 many opportunities for risk mitigation such as relying on lessons learned from the Pilot  
6 Project and the experience of industry-leading developers; limiting exposure through  
7 competitively bid contracts, including fixing costs where possible and including the  
8 Company's foreign currency risk mitigation plan; and thoroughly considering input of  
9 stakeholders in affected communities. The Company respectfully requests the  
10 Commission approve this Project as compliant with Va. Code § 56-585.1:11, and other  
11 relevant sections of the Code; grant the necessary certificates for public convenience and  
12 necessity for the interconnection components under Virginia jurisdiction; and approve the  
13 requested rider recovery.

14 **Q. Does this conclude your pre-filed direct testimony?**

15 **A.** Yes, it does.

**BACKGROUND AND QUALIFICATIONS  
OF  
MARK D. MITCHELL**

As Senior Vice President of Project Construction for Dominion Energy Services, Inc. (“Dominion”), Mark Mitchell is responsible for the engineering and construction of existing and planned power station capital projects for Virginia Electric and Power Company (the “Company”) and its affiliates. In addition, he has responsibility for ongoing operations of the CVOW Pilot Project. Since 2000, he has been responsible for the installation of new generation for Dominion, including combined-cycle gas turbines, solar projects, simple-cycle gas turbines, wind turbines, and the VCHEC Project.

Mr. Mitchell joined Dominion in June 2000 as a project manager in charge of a 750 MW gas turbine project in Illinois. From 2001 through 2004, he was in charge of the 1200 MW Fairless Energy Combined Cycle project near Philadelphia, Pennsylvania. During this project, he was promoted to Project Director. In 2004, he was named Director, Fossil & Hydro Projects, and from 2004 through 2007 was in charge of projects performed across the fossil generation fleet, as well as new generation project development. In 2007, he assumed management of the VCHEC construction project as Director of Fossil and Hydro Projects – Generation Construction. Mr. Mitchell was promoted to his Vice President, Generation Construction in January 2014, and assumed his current position in 2020.

A native of Ashland, Virginia, Mr. Mitchell received a Bachelor of Applied Science degree from the University of Delaware in 1991 and a Master’s degree in business administration from Wilmington College in 1993. He is a registered professional engineer in Virginia and Pennsylvania in the electrical engineering field.

Prior to joining Dominion, Mr. Mitchell worked for Reynolds Metals from 1995 to 2000 on various projects in the United States, in Europe, and in Africa. From 1982 to 1995, he worked in the utility industry on various projects for large utilities, including construction and startups for four nuclear plants.

Mr. Mitchell has previously testified before the State Corporation Commission of Virginia.



**FILING INDEX**  
**PUR-2021-00142**

**Application**

**Direct Testimony of Company Witness Mark D. Mitchell** – *Overview of CVOW Project*

**Statutory Requirements for Offshore Wind Projects (“Generation Filing”)**

*Addresses compliance with statutory requirements in Va. Code § 56-585.1:11, § 56-585.1 A 6, and Commission Questions from July 26, 2021 Order*

**Company Witness Testimony**

- Direct Testimony of Company Witness Joshua Bennett – *Overview of Generation components of Project; Presentation of Generation Appendix; Discussion of Levelized Cost of Energy (“LCOE”) and major competitively bid contracts*
  - *Sponsors Generation Appendix sections IV.A and VII.2*
- Direct Testimony of Company Witness Glenn Kelly – *LCOE, Economic Analysis*
  - *Sponsors Generation Appendix sections I.A (fig. 2-3), II.B, III.A, V.B, V.D, and VII.8*
- Direct Testimony of Company Witness Grant Hollett – *Project Component Overview; Project Timeline, Pilot Summary*
  - *Sponsors Generation Appendix sections I.A, II.A, IV.A (Attachments IV.A.1-3, 5-7); and co-sponsors Transmission Appendix section III.L regarding the federal permitting process*
- Direct Testimony of Company Witness Lauren Adkins – *Foreign Currency Risk Mitigation Plan*
- Direct Testimony of Company Witness Scott Lawton – *Environmental and Fisheries Mitigation Plan; Environmental Considerations and Investigation*
  - *Sponsors Generation Appendix section V.A and co-sponsors section V.C*
- Direct Testimony of Company Witness John Larson – *Economic Development Plan*
  - *Sponsors Generation Appendix sections VI.A, VII.6, and VII.7*

Generation Appendix

- Part I: Overview of Proposed Project
  - Attachment I.A.1: BOEM renewable energy regulations
  - Attachment I.A.2: Lease Area location
  - Attachment I.A.3: Wind Turbine Generator Layout Map
  - Attachment I.A.4: Summary of Physical Characteristics of Wind Turbines
  - Attachment I.A.5: Wind Turbine Foundation
  - Attachment I.A.6: Cross Section of Inter-Array Cable
  - Attachment I.A.7: Representative Layout of Inter-Array Cables
  - Attachment I.A.8: Offshore Export Cable Route Corridor / Offshore Export Cable Routes within Corridor
  - Attachment I.A.9: Portsmouth Marine Terminal Overview
- Part II: Planning and Development of Proposed Project
  - Attachment II.A: Report of Experience and Data Learned from Pilot Project
- Part III: Costs of Proposed Project
  - Attachment III.A: Levelized Cost of Energy (“LCOE”) Analysis
- Part IV: Construction Plan
  - Attachment IV.A.1: RFP Summary Report – Transition Pieces
  - Attachment IV.A.2: RFP Summary Report – Offshore Substations
  - Attachment IV.A.3: RFP Summary Report – Balance of Plant, Engineering, Procurement, Transportation, and Installation Services (“BOP”)
  - Attachment IV.A.4: RFP Summary Report – Offshore / Onshore Export Cables
  - Attachment IV.A.5: RFI Summary Report – Turbine Generator and Tower Supply, and Commissioning (“TSA”) / Long Term Service Agreement (“LTSA”)
  - Attachment IV.A.6: RFP Summary Report – Monopiles
  - Attachment IV.A.7: RFP Summary Report – Miscellaneous Contracts: Engineering Services, Geotechnical and Geophysical Studies, Certified Verification Agent, Inter-Array Cable & Switchgear, and Localization Agreement for Blade Finishing Facility Contracts
  - Attachment IV.B: Project Timeline
- Part V: Environmental and Social Considerations
  - Attachment V.A.1: Fisheries and Communications Plan
  - Attachment V.A.2: Summary of Project Environmental Considerations
  - Attachment V.C: Environmental Justice (COP Section 4.4.2)
- Part VI: Economic Development Benefits
  - Attachment VI.A: Economic Development Plan
- Part VII: Responses to Commission Order dated July 26, 2021
  - Attachment VII.1.a-c: Revenue Requirement Support
  - Attachments VII.3.a.1-3: Identified Potential Network Upgrades

**Statutory Requirements Reference Table (by statutory requirement)**

<b>Statute Section</b>	<b>Description</b>	<b>Appendix Section</b>
A	Definitions	N/A
B; C 1	Project parameters; Public interest determination	I.A
C 1	Levelized Cost of Energy	III.A
C 1	Project Schedule	IV.C
C 1	In determining reasonableness and prudence of costs, Commission shall give due consideration to: <ul style="list-style-type: none"> <li>• (a) Commonwealth's renewable portfolio standards and carbon reduction requirements;</li> <li>• (b) promotion of new renewable generation resources; and</li> <li>• (c) economic development benefits for the Commonwealth, including capital investments and job creation</li> </ul>	V.D V.D VI.A
D	Economic development plan	VI.A
E	Competitive solicitation	IV.A; VI.A
	Experienced developer	II.A
F	Environmental and fisheries mitigation plan	V.A
585.1 A 6	Planning and Development (demand and reliability)	II.B
585.1 A 6	Social Cost of Carbon	V.B
585.1 A 6	Impact on Historically Economically Disadvantaged Communities	V.C
Commission Order	Index of Company responses to questions in Commission Order	VII

## **Request for Approval and Certification of the Virginia Facilities (“Transmission Filing”)**

### **Transmission Appendix**

- Part I: Necessity for the Proposed Project
- Part II: Description of the Proposed Project
- Part III: Impact of Line on Scenic, Environmental and Historic Features
- Part IV: Health Aspects of EMF
- Part V: Notice

### **Company Witness Testimony**

- Direct Testimony of Company Witness J. Kevin Curtis – *Overview of Transmission aspects of Project, PJM Interconnection queue process, and the Virginia Facilities*
- Direct Testimony of Company Witness Peter Nedwick – *Need for and benefit of proposed Virginia Facilities; sponsors Generation Appendix section VII.3*
- Direct Testimony of Company Witness Sherrill Crenshaw – *Design characteristics of overhead Virginia facilities; related EMF levels*
- Direct Testimony of Company Witness Shane Moulton – *Design characteristics of underground Virginia facilities; related EMF levels; sponsors Generation Appendix Attachment IV.A.4 regarding competitive bid process for underground facilities*
- Direct Testimony of Company Witness Thomas Dorsey – *Substation work*
- Direct Testimony of Company Witness Lane Carr – *Overview of route and related permitting; co-sponsors DEQ Supplement*
- Direct Testimony of Company Witness Rachel Studebaker – *Overview of environmental permitting; co-sponsors DEQ Supplement*
- Direct Testimony of Company Witness Robert Richardson – *Overview of public outreach and engagement*
- Direct Testimony of Company Witness Jon Berkin – *Environmental Routing Study; co-sponsors DEQ Supplement; sponsors Generation Appendix Attachment V.C containing the environmental justice report for the COP*

### **Rider OSW Testimony and Schedules (“RAC Filing”)**

- Direct Testimony of Company Witness Christopher Lee – *Revenue Requirement*
  - *Sponsors Generation Appendix section VII.1*
- Direct Testimony of Company Witness Scott Gaskill – *Jurisdictional and Customer Class Allocation Factors*
  - *Sponsors Generation Appendix sections VII.4 and VII.5*
- Direct Testimony of Company Witness Timothy Stuller – *Rate Calculation*

### **Filing Schedules**

- Filing Schedules 3, 4, 5, 8
- Filing Schedule 46

## **EXTRAORDINARILY SENSITIVE SCHEDULE 2**

Redacted in Full for Extraordinarily Sensitive Information



## WITNESS DIRECT TESTIMONY SUMMARY

Witness: Joshua Bennett

Title: Vice President – Offshore Wind

Summary:

Company Witness Joshua Bennett describes the components of the Coastal Virginia Offshore Wind Commercial Project (the “CVOW Commercial Project” or “Project”), which includes all of the Project’s offshore elements up to the point of interconnection located at Harpers Switching Station. He outlines the legal requirements applicable to the CVOW Commercial Project as set forth in § 56-585.1:11 and related provisions of § 56-585.1 A 6 of the Code of Virginia (“Va. Code” or “Code”) and presents the Company’s Generation Appendix, which explains the Company’s compliance with various statutory requirements and answers questions posed by the State Corporation Commission of Virginia (“Commission”) in its July 26, 2021 Order (“July 26 Order”). Mr. Bennett also sponsors portions of Filing Schedule 46.

Mr. Bennett addresses certain issues of particular import to the Project, including many components of the levelized cost of energy analysis and the major capital contracts executed in support of the Project. He also presents the Company’s request for approval of cost recovery rider through a new rate adjustment clause, designated “Rider Offshore Wind” or “Rider OSW,” consistent with Code § 56-585.1:11 C and pursuant to Code § 56-585.1 A 6. The Company is seeking cost recovery for the offshore generating facilities as well as associated electrical transmission and distribution facilities required to interconnect the Project.

**DIRECT TESTIMONY  
OF  
JOSHUA BENNETT  
ON BEHALF OF  
VIRGINIA ELECTRIC AND POWER COMPANY  
BEFORE THE  
STATE CORPORATION COMMISSION OF VIRGINIA  
CASE NO. PUR-2021-00142**

1 **Q. Please state your name, business address and position with Virginia Electric and**  
2 **Power Company (“Dominion Energy Virginia” or the “Company”).**

3 A. My name is Joshua Bennett and my business address is 707 East Main Street, Richmond,  
4 Virginia 23219. I am Vice President – Offshore Wind, for the Company. A statement of  
5 my background and qualifications is attached as Appendix A.

6 **Q. Please describe your area of responsibility with the Company.**

7 A. I am responsible for overseeing the design, construction, and operation of the Company’s  
8 offshore wind facilities. This includes development of the Coastal Virginia Offshore  
9 Wind Commercial Project (“CVOW Commercial Project,” “CVOW” or the “Project”)  
10 presented in this proceeding, as well as the Company’s 12 megawatt (“MW”) Coastal  
11 Virginia Offshore Wind demonstration project (“Pilot Project”), which was approved by  
12 the Virginia State Corporation Commission (“Commission”) in Case No. PUR-2018-  
13 00121.

14 **Q. What is the purpose of your testimony in this proceeding?**

15 A. My testimony describes the components of the Project designed, constructed, and  
16 operated by Dominion Generation, which includes all of the Project’s offshore elements  
17 up to the point of interconnection (“POI”) which is Harpers Switching Station. In this  
18 testimony, I outline the legal requirements applicable to the CVOW Commercial Project



1 as set forth in § 56-585.1:11 and related provisions of Code § 56-585.1 A 6 of the Code  
2 of Virginia and present the Company’s Generation Appendix, which explains in detail  
3 how the Company has complied with each of these legal requirements. The Generation  
4 Appendix at Section VII also provides answers and cross-references to the responses to  
5 the Commission’s Order issued on July 26, 2021 (“Commission’s Order”) in this docket  
6 requiring additional information and analyses about the CVOW Commercial Project. I  
7 also address certain issues of particular importance to the Project, including many  
8 components of the levelized cost of energy analysis and the major capital contracts  
9 executed in support of the Project. Additionally, I present the Company’s request for  
10 approval of a cost recovery rider, consistent with Code § 56-585.1:11 C and pursuant to  
11 Code § 56-585.1 A 6.

12 **Q. Are you sponsoring an exhibit in this proceeding?**

13 A. Yes. I am sponsoring Sections IV.A and VII.2 of the Generation Appendix. I also  
14 sponsor the following filing schedules in support of the requested rate adjustment clause  
15 (“RAC”): Rider OSW:

- 16 • Filing Schedule 46.b.1.i, Statement 1
- 17 • Filing Schedule 46.b.1.ii, Statement 1
- 18 • Filing Schedule 46.b.1.iii, Statement 1
- 19 • Filing Schedule 46.b.2.iv, Statement 1
- 20 • Filing Schedule 46.b.2.vi, Statement 1

21 **Q. What are the various components of the Project presented in this filing?**

22 A. As outlined in the Schedule 1 to Company Witness Mitchell’s testimony, this filing  
23 contains the following primary components:

- 1 • Generation Appendix – *describes the Company’s compliance with Code § 56-*  
2 *585.1:11 and related provisions of Code § 56-585.1 A 6*
- 3 • Transmission Appendix – *application for approval and certification of electric*  
4 *transmission facilities under Code § 56-46.1 and § 56-265.1 et seq. supporting*  
5 *the Project*
- 6 • Rate Adjustment Clause Application – *application for cost recovery pursuant to*  
7 *Code § 56-585.1:11 and § 56-585.1 A 6.*

**Q. Which of these components does your testimony address?**

8 A. I present the Generation Appendix and the RAC Application. Specifically, I outline the  
9 purpose and scope of the Generation Appendix, which explains the Company’s  
10 compliance with various statutory requirements and answers questions posed by the  
11 Commission, and introduce Rider Offshore Wind (“Rider OSW”), the Company’s  
12 proposed RAC to recover costs associated with the CVOW Commercial Project.

13 **Q. How is your testimony organized?**

- 14 A. My testimony is organized as follows:
- 15 I. CVOW Commercial Project Overview
  - 16 II. Legal Requirements
  - 17 III. Generation Appendix
  - 18 IV. Levelized Cost of Energy
  - 19 V. Procurement Process and Competitively Bid Contracts
  - 20 VI. Rate Adjustment Clause – Rider OSW

21 **I. CVOW COMMERCIAL PROJECT OVERVIEW**

22 **Q. Please provide an overview of the CVOW Commercial Project.**

23 A. As described in the testimony of Company Witness Mark D. Mitchell and in additional  
24 detail in the Generation Appendix, the CVOW Commercial Project encompasses offshore  
25 wind generation facilities consisting of approximately 176 Wind Turbine Generators

1 (“WTGs”) located in a federal lease area beginning approximately 27 statute miles off the  
2 coast of Virginia Beach, Virginia (“Lease Area”) as well as related Offshore Export  
3 Facilities, which will transport the generated electricity to the Cable Landing Location at  
4 the State Military Reservation (“SMR”) in the City of Virginia Beach, Virginia, and then  
5 to the Harpers Switching Station at Naval Air Station Oceana, which is the POI for the  
6 Project. The Project has a nominal capacity of 2,587 MW and is expected to provide  
7 approximately 9,500 gigawatt-hours of carbon-free energy per year of operation after all  
8 the WTGs are placed in-service.

9 The CVOW Commercial Project is designed to provide clean, reliable offshore wind  
10 energy to Virginia customers, create the opportunity to displace electricity generated by  
11 fossil fuel-powered plants, and offer substantial economic and environmental benefits to  
12 the Commonwealth of Virginia. This Project represents a viable and needed opportunity  
13 for Virginia to obtain clean renewable energy and realize its economic and environmental  
14 goals. As Company Witness Mitchell explains, the Project is essential to meeting the  
15 benchmarks set forth in the Virginia Clean Economy Act (“VCEA”) and provides a  
16 necessary complement to solar generation, which will constitute much of the Company’s  
17 renewable fleet.

18 A more detailed description of the Project and its components is provided in Generation  
19 Appendix Section I.A.

1 **Q. What data and experience has the Company relied on to develop and construct the**  
2 **Project?**

3 A. The Company has gained critical insights from several sources. First, the Pilot Project  
4 has provided considerable benefit in terms of permitting, engineering, procurement,  
5 construction, commissioning, and operational and maintenance experience from which  
6 the Company can draw on for the larger Project design. Secondly, the Company has  
7 contracted with firms that have significant experience in offshore windfarm design,  
8 construction, and operations to support the Project. This includes insight from Ørsted,  
9 which assisted with the Pilot Project, as well as Ramboll Group, which is the Owner's  
10 Engineer for this Project, and Merkur Offshore, which acts as a strategic advisor. The  
11 Company has also consulted with Qvartz (later Bain & Company) to determine the  
12 optimal organizational structure for the Project.

13 More detail regarding the relevant data and experience informing the Project is provided  
14 in Section II.A of the Generation Appendix.

15 **Q. Please describe the construction schedule for the Project and note any schedule-**  
16 **related tax impacts.**

17 A. The Company began constructing the facility in 2020, for U.S. income tax purposes,  
18 beginning with fabrication of inter-array cables to secure certain tax credits. Onshore  
19 construction is targeted to start in Q3-2023 following the expected Bureau of Ocean  
20 Energy Management ("BOEM") Record of Decision for the Construction and Operations  
21 Plan ("COP") in Q2-2023. Offshore construction is scheduled to commence in Q4-2023  
22 with scour protection and the start of subsea cable installation. Monopile construction  
23 will start in Q2-2024. The final stage of construction—WTG installation—is scheduled

1 to be completed by the end of 2026. A more detailed discussion of the federal production  
2 tax credit and investment tax credit benefits, and related sensitivities, is included in  
3 Generation Appendix Section IV.B and the testimony of Company Witness Glenn Kelly,  
4 and a full Project schedule is included as Generation Appendix Attachment IV.B.

5 **Q. How is the Company incorporating environmental and social considerations in its**  
6 **design and construction of the Project, including minimizing adverse impacts to the**  
7 **environment, considering the social cost of carbon, and ensuring the Project does**  
8 **not have a disproportionate adverse impact on historically economically**  
9 **disadvantaged communities?**

10 A. The Company has incorporated these concepts in its Project planning. In the COP  
11 submitted to BOEM, the Company included a comprehensive discussion of  
12 environmental considerations associated with the Project. This document is included as  
13 Attachment V.A.2 to the Generation Appendix. Relatedly, the Company compiled a  
14 Fisheries Communications Plan that outlines the steps being taken to address  
15 environmental concerns to fisheries, which is included as Generation Appendix  
16 Attachment V.A.1.

17 With respect to the “social cost of carbon,” the lack of carbon emissions from offshore  
18 wind is a benefit of the Project. Company Witness Glenn A. Kelly describes this benefit  
19 in greater detail in his direct testimony and explains how this benefit was incorporated  
20 into the economic analysis of the CVOW Commercial Project.

21 The Company is also providing an Environmental Justice Report, which is being included  
22 within the Environmental Routing Study filed with the Transmission Appendix in this

1 filing, as well as additional environmental justice analysis provided to BOEM, included  
2 as Generation Appendix Attachment V.C.

3 **Q. Is the Project consistent with the Commonwealth’s renewable portfolio standards  
4 and carbon reduction requirements?**

5 A. Yes. The Project is expected to contribute 2,587 MW of nominal carbon-free energy to  
6 the Company’s generation mix, which brings it closer to meeting its statutory  
7 requirement of producing 100% clean electricity by 2045. The CVOW Commercial  
8 Project also supports the public policy objectives of the VCEA to develop new renewable  
9 resources in the Commonwealth. In combination with other carbon-free energy resources  
10 such as nuclear, solar, and energy efficiency projects, the Project will support the  
11 Company’s continued efforts to reduce regional carbon dioxide emissions and promote  
12 fuel diversity by avoiding over-reliance on any single fuel commodity. Section V.D of  
13 the Generation Appendix provides additional discussion on this issue.

14 **Q. What is the total estimated cost of the Project?**

15 A. The Project is projected to have a total cost of approximately \$9.8 billion. The major  
16 capital contracts constituting that amount are discussed in more detail in section V of my  
17 testimony. I also discuss the economic value of the Project in section IV of my  
18 testimony.

## 19 II. LEGAL REQUIREMENTS

20 **Q. Under what legal authority is the Company filing this application?**

21 A. As discussed by Company Witness Mitchell, the Project is designed to satisfy various  
22 requirements in the VCEA and other legislation mandating the development and

1 deployment of renewable generation resources. The Company is specifically making this  
2 filing pursuant to § 56-585.1:11 of the Code of Virginia (“Offshore Wind Statute” or the  
3 “Statute”), which addresses the development of offshore wind capacity in the  
4 Commonwealth. This Statute (i) determines that certain offshore wind facilities are in the  
5 public interest; (ii) contemplates cost recovery via a rate adjustment clause to be filed  
6 pursuant to Code § 56-585.1 A 6, with costs presumed to be reasonably and prudently  
7 incurred if certain competitive solicitation, levelized cost of energy, and construction  
8 timeline benchmarks are met; (iii) requires any utility constructing an offshore wind  
9 facility to submit an economic development and workforce utilization plan; (iv) requires  
10 any utility constructing an offshore wind facility to submit an environmental and fisheries  
11 mitigation plan; and (v) requires offshore wind projects to comply with certain  
12 competitive procurement requirements, involve at least one experienced developer and  
13 demonstrate economic development benefits within the Commonwealth.

14 **Q. Does the Statute indicate whether the Virginia General Assembly views offshore**  
15 **wind projects like the CVOW Commercial Project as being in the public interest?**

16 A. Yes. The Statute indicates that certain offshore wind projects—including the CVOW  
17 Commercial Project—are in the public interest. In short, the Statute states, in part:

18 [i]n order to meet the Commonwealth’s clean energy goals, prior to  
19 December 31, 2034, the construction or purchase by a public utility of one  
20 or more offshore wind generation facilities located off the  
21 Commonwealth’s Atlantic shoreline or in federal waters and  
22 interconnected directly into the Commonwealth, with an aggregate  
23 capacity of up to 5,200 megawatts, is in the public interest and the  
24 Commission shall so find . . . .

25 It goes on to specify that:

26 construction by a Phase II utility of one or more new utility-owned and  
27 utility-operated generating facilities utilizing energy derived from offshore

1 wind and located off the Commonwealth's Atlantic shoreline, with an  
2 aggregate rated capacity of not less than 2,500 megawatts and not more  
3 than 3,000 megawatts, along with electrical transmission or distribution  
4 facilities associated therewith for interconnection is in the public interest.

5 **Q. Under the Statute, is the Company permitted to recover the costs of constructing**  
6 **and operating an offshore wind generation facility?**

7 A. Yes, the Statute contemplates recovery of costs associated with the CVOW Commercial  
8 Project subject to a determination by the Commission that costs sought for recovery are  
9 reasonable and prudent. The Statute provides, however, that costs associated with the  
10 Project shall be presumed to be reasonable and prudent if the Commission determines  
11 that:

12 (i) the utility complied with the Statute's competitive solicitation and procurement  
13 requirements;

14 (ii) the Project's total levelized cost of energy ("LCOE") does not exceed 1.4  
15 times the 2019 comparable cost of a conventional simple cycle combustion  
16 turbine generating facility; and

17 (iii) the utility has commenced construction of such facilities for U.S. income tax  
18 purposes prior to January 1, 2024.

19 The Statute provides that the Commission may only disallow costs if they "are otherwise  
20 unreasonably and imprudently incurred." The Company is providing information to  
21 satisfy these requirements in Sections III.A, IV.A, and IV.B of the Generation Appendix.



1 **Q. Please describe the economic development and workforce utilization plan required**  
2 **by the Statute.**

3 A. The Statute requires any utility constructing an offshore wind facility under the law to  
4 submit a plan for Commission review that includes the following:

- 5 (i) options for utilizing local workers;
- 6 (ii) economic development benefits for the Commonwealth from the Project;
- 7 (iii) consultation with the Commonwealth’s Chief Workforce Development  
8 Officer, the Chief Diversity, Equity, and Inclusion Officer, and the Virginia  
9 Economic Development Partnership on opportunities to advance the  
10 Commonwealth’s workforce and economic development goals;
- 11 (iv) giving priority to the hiring, apprenticeship, and training of veterans, local  
12 workers, and workers from historically economically disadvantaged communities;  
13 and
- 14 (v) procurement of equipment from Virginia-based or U.S.-based manufacturers  
15 using materials or product components made in Virginia or the U.S., if reasonably  
16 available and competitively priced.

17 The Statute also requires any offshore wind project to:

- 18 (i) be subject to competitive procurement or solicitation for a substantial majority  
19 of the services and equipment;
- 20 (ii) involve at least one experienced developer; and
- 21 (iii) demonstrate the economic development benefits within the Commonwealth,  
22 including capital investments and job creation.  
23

1 The Company is providing this information in its Economic Development Plan,  
2 submitted as Attachment VI.A of the Generation Appendix. Information regarding the  
3 competitive procurement and developer requirements are submitted in Section IV.A of  
4 the Generation Appendix.

5 **Q. What is required to be included in the environmental and fisheries mitigation plan?**

6 A. The Statute provides that the environmental and fisheries mitigation plan to be submitted  
7 to the Commission shall include an explicit description of the best management practices  
8 the bidder will employ that considers the latest science at the time the proposal is made to  
9 mitigate adverse impacts to wildlife, natural resources, ecosystems, and traditional or  
10 existing water-dependent uses. The plan must also include a summary of pre-  
11 construction assessment activities, consistent with federal requirements, to determine the  
12 spatial and temporal presence and abundance of marine mammals, sea turtles, birds, and  
13 bats in the Lease Area.

14 The Company is satisfying this requirement by providing two documents with its filing,  
15 attached as Attachment V.A.1 to the Generation Appendix: (i) the Fisheries  
16 Communications Plan submitted to BOEM as Appendix V to the COP; and (ii) portions  
17 of section 4 of the COP (Site Characterization and Assessment of Impact-Producing  
18 Factors) submitted to BOEM, which addresses environmental considerations associated  
19 with the Project.

1 **III. GENERATION APPENDIX**

2 **Q. Please explain the Generation Appendix being filed with the Company’s Application**  
3 **in this case.**

4 A. The Company presents the Generation Appendix as a vehicle to explain how it has  
5 complied with the requirements of various code sections—specifically Code § 56-  
6 585.1:11 and, for context, some related sections of § 56-585.1 A 6—that are not readily  
7 addressed by established filing formats for other types of cases or otherwise warrant more  
8 extended discussion. The Company also addresses each requirement of the  
9 Commission’s July 26, 2021 Order in Section VII of the Generation Appendix. Other  
10 aspects of the CVOW Commercial Project follow standard formats for presenting the  
11 Company’s case, such as the Transmission Appendix and witness testimony to address  
12 the Rate Case Rules (20 VAC 5-204-5, *et seq.*) for the A 6 Rider. Accordingly, the  
13 Company compiled the Generation Appendix to present this information in a format that  
14 loosely mirrors that of the Transmission Appendix.

15 The Generation Appendix contains narrative discussions, and where appropriate,  
16 provides attachments that contain more extensive information. The information in the  
17 Generation Appendix is presented in categories that track the relevant statutory directives  
18 and the requirements of the Commission’s Order. The table below provides a roadmap  
19 that explains where information pertaining to the various statutory requirements and the  
20 Commission’s Order can be found in the Generation Appendix.

**Table 1. Generation Appendix Statutory Requirements Outline**

<b>Statute Section</b>	<b>Description</b>	<b>Appendix Section</b>
A	Definitions	N/A
B; C 1	Project parameters; Public interest determination	I.A
C 1	Levelized Cost of Energy	III.A
C 1	Project Schedule	IV.B
C 1	In determining reasonableness and prudence of costs, Commission shall give due consideration to: <ul style="list-style-type: none"> <li>• (a) Commonwealth's renewable portfolio standards and carbon reduction requirements;</li> <li>• (b) promotion of new renewable generation resources; and</li> <li>• (c) economic development benefits for the Commonwealth, including capital investments and job creation</li> </ul>	V.D V.D VI.A
D	Economic development plan	VI.A
E	Competitive solicitation  Experienced developer	IV.A; VI.A  II.A
F	Environmental and fisheries mitigation plan	V.A
585.1 A 6	Planning and Development (demand and reliability)	II.B
585.1 A 6	Social Cost of Carbon	V.B
585.1 A 6	Impact on Historically Economically Disadvantaged Communities	V.C
Commission Order	Company responses to questions in Commission Order	VII

*"Statute Section" column refers to Va. Code § 56-585.1:11 unless otherwise indicated.*

1 **IV. LEVELIZED COST OF ENERGY**

2 **Q. What is the levelized cost of energy?**

3 A. The LCOE calculation levelizes the present value of the total expected cost of the Project  
4 over its life and divides the cost by the expected energy delivered (in MW hours) over the  
5 same period. In other words, it is a measure of the average net present cost of electricity  
6 for the Project over its lifetime. LCOE is calculated using various inputs, which are  
7 described below.

8 **Q. What is the significance of the LCOE in this case?**

9 A. The Offshore Wind Statute provides that the Commission shall determine the  
10 reasonableness and prudence of any request for cost recovery for an offshore wind  
11 project contemplated in the Statute, but it further states that such costs shall be presumed  
12 to be reasonably and prudently incurred if the Commission makes three findings, one of  
13 which is the following:

14 the project’s projected total levelized cost of energy, including any tax  
15 credit, on a cost per megawatt hour basis, inclusive of the costs of  
16 transmission and distribution facilities associated with the facility’s  
17 interconnection, does not exceed 1.4 times the comparable cost, on an  
18 unweighted average basis, of a conventional simple cycle combustion  
19 turbine generating facility as estimated by the U.S. Energy Information  
20 Administration in its Annual Energy Outlook 2019.

21 Accordingly, while not a requirement for the Commission to find costs reasonable and  
22 prudent, an LCOE calculation 1.4 times or less the 2019 cost of a conventional simple  
23 cycle combustion turbine facility, along with satisfaction of the other criteria, would  
24 create a presumption that the requested costs are reasonable and prudent.

1 **Q. What cost components are included in the Project’s LCOE calculation?**

2 A. The LCOE calculation for the Project is a function of the following nine inputs:

- 3 • Capital Expenditures
- 4 • Gross Capacity Factor
- 5 • Availability Factor
- 6 • Renewable Energy Credits (“RECs”)
- 7 • Nominal Capacity
- 8 • Book Life
- 9 • Annual Operations and Maintenance (“O&M”) Expenses
- 10 • Investment Tax Credits
- 11 • Return on Equity (“ROE”) Percentage

12 **Q. Why did the Company select these inputs for the LCOE calculation?**

13 A. The Company’s standard LCOE calculation methodology utilizes these components. The  
14 calculation has been adjusted as needed to account for nuances associated with the  
15 CVOW Commercial Project, but otherwise follows the Company’s typical approach for  
16 such calculations. Company Witness Glenn Kelly discusses the LCOE calculation in  
17 more detail.

18 **Q. Discuss each of the components of the LCOE calculation you just mentioned. Please**  
19 **describe the capital expenditures component.**

20 A. This component is straightforward, as it represents the total of all capital expenditures  
21 anticipated to be spent for the Project, including generation and transmission  
22 infrastructure, and construction costs. The Company projects total capital expenditures  
23 of \$9.8 billion for the CVOW Commercial Project. This number is broken down in more  
24 detail in section V of my testimony, which discusses the capital contracts supporting the  
25 Project.

1 **Q. The next component you mentioned is the Gross Capacity Factor. Can you describe**  
2 **this component and explain how the Company calculated it?**

3 A. The Company conducted a study with Ramboll using all available data to identify the  
4 gross capacity factor. This includes accounting for anticipated line losses and wake  
5 effects. This information was independently assessed by Siemens Gamesa Renewable  
6 Energy (“Siemens” or “SGRE”), which conducted its own calculations. The Company is  
7 projecting a gross capacity factor of 43.3%, which is consistent with capacity factor data  
8 gathered to date from the first year of operation of the Pilot Project.

9 **Q. What is the Availability Factor, and how did the Company calculate it for the**  
10 **Project?**

11 A. The Availability Factor is a measure of how often the facilities will be available to  
12 generate electricity. **[BEGIN EXTRAORDINARILY SENSITIVE INFORMATION]**

13 [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 [REDACTED] **[END EXTRAORDINARILY SENSITIVE**

18 **INFORMATION]** Consistent with the Company’s advisors’ experience, availability is  
19 expected to increase following the Project’s infancy period, as more knowledge is gained  
20 from operating the facility.

21 **[BEGIN EXTRAORDINARILY SENSITIVE INFORMATION]** [REDACTED]

22 [REDACTED]

23 [REDACTED]

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[REDACTED]

[REDACTED] [END EXTRAORDINARILY SENSITIVE INFORMATION]

**Q. What REC price is the Company including in the LCOE calculation?**

A. The Company will earn the market REC price at the time of sale. For purposes of the LCOE, the Company is projecting a \$9 per MWh REC sale price. This is based on REC prices as of the time of this filing.

**Q. What is the nominal capacity for the Project?**

A. The turbines will be operated at 14.7 MW, resulting in a nominal capacity of approximately 2,587 MW at the WTGs offshore.

**Q. What is the book life of the Project?**

A. The book life of the Project is 30 years, consistent with the offshore wind industry. This is also consistent with recent U.S. Energy Information Administration LCOE analysis for new generation resources, including offshore wind, and the operations term of the BOEM lease.

**Q. Please explain the LCOE input for annual O&M expense.**

A. The Company is projecting an annual O&M expense and capital spare parts cost for the Project of \$129 million. In developing this number, the Company took the same approach it has used to determine other long-term budgets. In this case, staffing assumptions were built out over the life of the Project as well as service and materials costs. Siemens provided logistics cost estimates that were factored in as well. These costs were then verified in the market. As indicated, the Company also built in conservative capital expenditure assumptions.



1 **Q. How are investment tax credits accounted for in the LCOE calculation for the**  
2 **Project?**

3 A. For purposes of calculating the Project LCOE, the Company is assuming that  
4 approximately 83.27% of the Project's capital expenditures will qualify for 30%  
5 investment tax credits ("ITCs"). The 83.27% of the Project ITC eligibility factor  
6 represents the work scope for the construction of the wind turbines, offshore substation  
7 platforms, inter-array cables, undersea export cables, and onshore underground  
8 infrastructure to the POI located at Harpers Switching Station, where conditioning  
9 equipment is located. As further discussed in Company Witness Kelly's testimony,  
10 pursuant to expected changes in federal legislation, use of production tax credits (PTCs)  
11 could provide additional value to customers greater than the ITCs discussed above.

12 **Q. What ROE is the Company using in its LCOE calculation?**

13 A. The Company is using an ROE of 9.20%. 9.20% represents the ROE approved in the  
14 Company's 2019 ROE Proceeding (Case No. PUR-2019-00050), which was the  
15 Commission's most recent ROE determination.

16 **Q. Will you please summarize the input components of the LCOE calculation?**

17 A. Table 2, below, provides a summary of the input components for the Project's LCOE  
18 calculation as currently projected by the Company.

1

**Table 2. LCOE Input Component Summary**

<b>LCOE Input Component</b>	<b>Value</b>
Capital Expenditures	\$9.8 billion
Gross Capacity Factor	43.3%
Availability Factor	97.0%
Renewable Energy Credits (“RECs”)	\$9
Nominal Capacity	2,587 MW
Book Life	30 years
Annual Operations and Maintenance (“O&M”) Expense	\$129 million
Investment Tax Credits	83.27% eligibility
Return on Equity (“ROE”) Percentage	9.20%

2

3 **Q. Conducting the calculation using the components noted above, what is the projected**  
4 **LCOE for the Project?**

5 A. The LCOE for the CVOW Commercial Project is projected to be \$87 per MWh in 2027  
6 dollars, inclusive of the 30% ITC. For further comparison, the LCOE for the project in  
7 2018 dollars is \$73 per MWh. This is well within the legislative cap of 1.4 times the  
8 2019 cost of a CT, which is \$125 per MWh, in 2018 dollars.

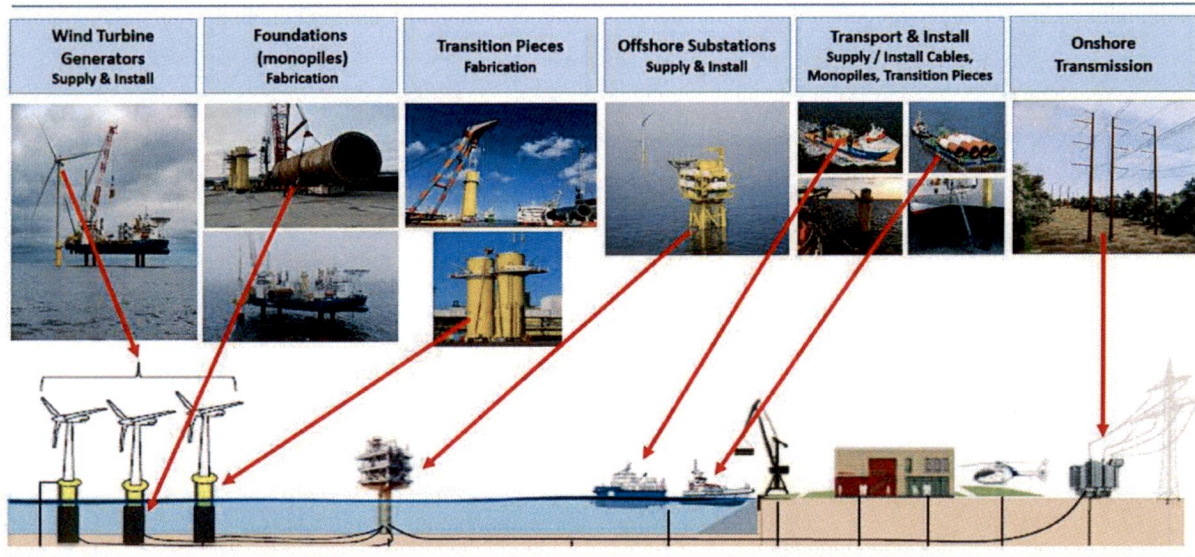
9 **VI. PROCUREMENT PROCESS AND COMPETITIVELY BID CONTRACTS**

10 **Q. The first component of the LCOE described above is capital expenditures, which**  
11 **totals \$9.8 billion. Can you explain the major contracts resulting in this total?**

12 A. Approximately \$7.6 billion of the \$9.8 billion total results from contracts that were  
13 competitively bid. The remaining \$2.2 billion is composed of Project costs, logistics,  
14 onshore transmission scope, and contingency.

15 The components associated with the major contracts are included in Figure 1 below and  
16 the contracts themselves are described in Table 3 and in my testimony, below.

1 **Figure 1: Major Contracts for Components Connecting to Onshore Transmission**



2

3 **Table 3. CVOW Generation Competitively Bid Contracts**

Component	Provider	Contract Details	Cost (in US Dollars) <sup>1</sup> (\$M) (Extraordinarily Sensitive Redacted)
Turbine Generator and Tower Supply, Installation, and Commissioning (“TSA”)	Siemens	<ul style="list-style-type: none"> <li>• Fixed price (USD, Euros, Kroner)</li> <li>• Priced in currency basket of Danish Krone, Euro, US Dollar – subject to currency hedging plan</li> <li>• Commodity Indexed (steel)</li> <li>• Contract terms and conditions negotiated. To be executed shortly.</li> </ul>	
Balance of Plant Engineering, Procurement, Transportation, and Installation Services (“BOP”)	DEME Offshore US, LLC / Prysmian Cables and Systems USA, LLC (“DEME-PRY”)	<ul style="list-style-type: none"> <li>• Fixed price (USD) – supplier currency hedge included</li> <li>• Commodity Indexed (metals, fuel)</li> <li>• Date Executed: November 4, 2021</li> </ul>	

<sup>1</sup> Where contracts are not executed in US Dollars, conversion as of July 27, 2021.

Offshore Substation Design and Supply	Bladt Industries Virginia Offshore Wind, LLC (“Bladt”) / SEMCO Maritime Renewable II, LLC (“SEMCO”)	<ul style="list-style-type: none"> <li>• Fixed price (Euros) – subject to currency hedging plan</li> <li>• Date Executed: October 20, 2021</li> </ul>	
Foundation (Monopiles)	EEW Special Pipe Constructions GmbH (“EEW”)	<ul style="list-style-type: none"> <li>• Fixed price (Euros) – subject to currency hedging plan</li> <li>• Commodity indexed (steel)</li> <li>• Date Executed: May 11, 2021</li> </ul>	
Foundation (Transition Pieces)	Bladt	<ul style="list-style-type: none"> <li>• Fixed price (Euros) – subject to currency hedging plan</li> <li>• Commodity indexed (steel)</li> <li>• Date Executed: October 13, 2021</li> </ul>	
Onshore Export Cables and Installation / Direct Pipe from Punchout to Cable Landing and HDD / Trench Underground to Harpers		<ul style="list-style-type: none"> <li>• USD</li> <li>• Conceptual Bids Received: September 20, 2021</li> <li>• Phase 2 initiated: October 13, 2021</li> </ul>	\$478
Miscellaneous Contracts: Engineering Services, Geotechnical and Geophysical Studies, Certified Verification Agent, and Inter-Array Cable & Switchgear	Multiple contractors and vendors  *See chart in Generation Appendix section IV.A)	Various contract and compensation mechanisms including firm fixed price and time and material contracts	

1 **Q. Let's discuss the competitively bid contracts in more detail. Can you describe the**  
2 **Turbine Generator and Tower Supply, Installation, and Commissioning agreement**  
3 **("Turbine Supply Agreement" or "TSA") with Siemens?**

4 A. The TSA is a contract with Siemens for the purchase, installation, and commissioning of  
5 176 WTGs that will be installed in the Lease Area as well as the towers that support the  
6 turbine nacelles. This is a fixed price contract where Siemens will be compensated  
7 following the completion of discrete milestones based on a Milestone Payment Schedule.  
8 Components of this contract are denoted in US Dollars ("USD"), Euros, and Danish  
9 Kroner. Because this contract and others in support of the Project are executed using  
10 foreign currency, the Company has developed a Foreign Currency Risk Mitigation Plan to  
11 reduce the volatility inherent in changing exchange rates. This is presented by Company  
12 Witnesses Mark D. Mitchell and Lauren Adkins.

13 The equivalent contract price in USD<sup>2</sup> for the TSA is approximately [BEGIN  
14 **EXTRAORDINARILY SENSITIVE]** [REDACTED] [END EXTRAORDINARILY  
15 **SENSITIVE)]. The TSA with Siemens is subject to steel index adjustments. This**  
16 contract is being executed in conjunction with the Long Term Service Agreement ("Long  
17 Term Service Agreement" or "LTSA"), which provides for ongoing operation and  
18 maintenance support.

19 **Q. Will you please elaborate on the details of the Long Term Service Agreement?**

20 A. The LTSA with Siemens provides ongoing operations and maintenance services for the  
21 176 WTGs included in this filing, as well as the two Pilot WTGs, the costs for which are

---

<sup>2</sup> The cost figures presented in the Company's Application and supporting materials for this filing are based on the currency exchange rates as of July 27, 2021, when the exchange rate was approximately \$1.1818 per Euro.

1 included in base rates, after they have been commissioned pursuant to the TSA. As  
2 WTGs achieve provisional acceptance and are tested and commissioned, the Company  
3 will begin providing generation to Virginia customers. At that time, the obligations  
4 under this contract will commence. Siemens will be compensated under this contract  
5 through services fees that vary according to the stage of the Project. Additionally, the  
6 LTSA guarantees the availability factor, as discussed above.

7 **Q. Please explain the Balance of Plant Engineering, Procurement, Transportation and**  
8 **Installation Services (“Balance of Plant” or “BOP”) contract.**

9 A. The BOP contract with DEME-PRY is an agreement to transport and install the WTG  
10 foundations and offshore substations along with the subsea cables. These components,  
11 which are constructed in Europe, are the subject of separate supply agreements described  
12 below. Specifically, the BOP contract includes the following scope of work items: (i)  
13 transport the two pieces of the foundations that will support each WTG—the monopiles  
14 and the transition pieces – from quayside in Europe to PMT for staging; (ii) install the  
15 two foundation components at the appropriate location in the Lease Area using a heavy  
16 lift vessel; (iii) transport three offshore substations directly from Europe to the Lease  
17 Area and install; (iv) manufacture and install the subsea inter-array cables that deliver  
18 power from the turbines to the offshore substations; and (v) manufacture and install the  
19 subsea offshore export cables that will transmit the generated energy from the offshore  
20 substations to the point of interconnection. For reference, Siemens will use a Jones Act-  
21 compliant vessel which will be contracted from an affiliate of the Company, subject to  
22 Commission approval, to install the wind turbine towers, nacelles and blades, pursuant to  
23 the terms of the TSA after the foundations are installed.

1 The BOP contract is a fixed price agreement initially designated in Euros, which will be  
2 converted into USD upon execution. The Company forecast includes the fee to exercise  
3 the conversion option resulting in contract price of [BEGIN EXTRAORDINARILY  
4 SENSITIVE] ██████████ [END EXTRAORDINARILY SENSITIVE]. Similar to  
5 the TSA, DEME-PRY will be compensated pursuant to a milestone payment schedule.  
6 Additionally, the BOP contract is subject to metals and fuel index adjustments.

7 **Q. What is included in the Offshore Substation Design and Supply Agreement**  
8 **(“OSS”)?**

9 A. The Company has contracted with Bladt / SEMCO to design and construct the three 880  
10 MW offshore substations to be located in the Lease Area offshore. These substations will  
11 be 5-level structures that are connected by Inter-Array Cables to the WTGs, and from  
12 which generated energy will be transmitted to the point of interconnection via Offshore  
13 Export Cables. This contract is a fixed price agreement designated in Euros with an  
14 equivalent USD notional value of approximately [BEGIN EXTRAORDINARILY  
15 SENSITIVE] ██████████ [END EXTRAORDINARILY SENSITIVE]. Bladt /  
16 SEMCO will be paid through milestone payments pursuant to a milestone payment  
17 schedule. Foreign currency risk associated with this contract will be mitigated by the  
18 Company’s Foreign Currency Risk Mitigation Plan upon Commission approval.

19 **Q. You mentioned two contracts related to the construction of the wind turbine**  
20 **foundations. Can you describe these?**

21 A. There are two primary components for the foundations that support the wind turbines –  
22 the monopiles and the transition pieces. The monopiles are the structures that are driven  
23 into the seabed, and the transition pieces provide access to the turbine tower, and also

1 have switchgear that connect the turbine generator cables to the subsea inter-array cables.  
2 The transition pieces are fastened on top of the monopiles and form the foundation on  
3 which the wind turbines are connected. The Company has executed separate contracts to  
4 design and construct both components.

5 The monopiles are being purchased pursuant to the Foundation Supply Agreement  
6 (“FSA”) with EEW. This fixed price contract denoted in Euros has been executed, and  
7 the equivalent USD contract price is [BEGIN EXTRAORDINARILY SENSITIVE]  
8 [REDACTED] [END EXTRAORDINARILY SENSITIVE]. EEW will be compensated  
9 through milestone payments pursuant to a milestone payment schedule, and the contract  
10 includes provisions for steel index adjustments.

11 For the transition pieces, the Company has executed the Transition Piece Supply  
12 Agreement (“TPSA”) with Bladt. This contract is a fixed price agreement designated in  
13 Euros and includes commodity index adjustments. Company Witness Mitchell generally  
14 addresses the commodity risk in these contracts. The equivalent USD contract price is  
15 [BEGIN EXTRAORDINARILY SENSITIVE] [REDACTED] [END  
16 EXTRAORDINARILY SENSITIVE]. As with the other major agreements, Bladt will  
17 be compensated through milestone payments pursuant to a milestone payment schedule.  
18 Foreign currency risk associated with these contracts will be mitigated by the Company’s  
19 Foreign Currency Risk Mitigation Plan upon Commission approval.



1 **Q. Outside of the major contracts already discussed, the chart above includes two**  
2 **additional rows depicting other costs associated with contracts that were**  
3 **competitively bid. Can you address these additional contract categories?**

4 A. Yes. The Company issued an RFP for the onshore export cables and various installation  
5 components to transport electricity from those cables to the Harpers Switching Station.  
6 This bidding process is still in negotiation, and Phase 2, which involves more extensive  
7 analysis and consultation, was initiated on October 13, 2021. This contract is expected to  
8 total approximately \$478 million. It is described in more detail by Company Witness  
9 Shane Moulton.

10 There are a number of smaller contracts that the Company executed in support of the  
11 Project, including for engineering services, geotechnical and geophysical studies, a  
12 certified verification agent, and inter-array cables and switchgear. These contracts, which  
13 include various contract terms and compensation mechanisms, total approximately  
14 **[BEGIN EXTRAORDINARILY SENSITIVE INFORMATION] [REDACTED] [END**  
15 **EXTRAORDINARILY SENSITIVE INFORMATION].**

16 **Q. In total, how much of the Project was competitively bid?**

17 A. The aggregate amount of competitively bid contracts supporting the Project is \$7.6  
18 billion. This constitutes a substantial majority (86%) of the approximately \$8.9 billion of  
19 total Project costs, excluding interconnection costs.

1 **Q. Mr. Bennett, can you describe the competitive solicitation process the Company**  
2 **used to select the vendors with which these contracts are executed?**

3 A. Details of the competitive solicitation process for each Project component, including RFI  
4 specifications, selection criteria, and bidder information are provided in Attachments  
5 IV.A.1 – A.6 to the Generation Appendix. The Project’s construction contracts have  
6 been subject to competitive procurement or solicitation for a substantial majority of the  
7 service and equipment, exclusive of interconnection costs, in compliance with Code § 56-  
8 585.1:11 E.

9 **Q. Please describe how the Company will manage the currency risk in the above**  
10 **contracts.**

11 A. As explained in more detail in the testimony of Company Witnesses Mark D. Mitchell  
12 and Lauren Adkins, the Company has developed a Foreign Currency Risk Mitigation  
13 Plan, whereby it will enter into financial hedges with U.S. financial institutions to  
14 mitigate the risk associated with the foreign currencies used in several of the major  
15 contracts discussed above.

16 **Q. In addition, please describe the Jones Act vessel that the Company will charter and**  
17 **will be utilized by Siemens for the installation of the WTGs and blades.**

18 A. The Company will charter the *Charybdis*, a vessel designed to carry turbine technologies  
19 used for the CVOW Commercial Project as well as next generation turbine sizes, to  
20 install the major WTG components. The *Charybdis* will be the only Jones Act vessel  
21 available in the U.S. This vessel and the Company’s use thereof is the subject of a  
22 separate Affiliates Act filing that is expected to be submitted in the fourth quarter of  
23 2021.

1 **VI. RATE ADJUSTMENT CLAUSE – RIDER OSW**

2 **Q. How is the Company seeking to recover costs associated with the Project?**

3 A. Along with the other components of the filing, the Company is requesting cost recovery  
4 through a new RAC, designated “Rider Offshore Wind” or “Rider OSW,” pursuant to  
5 Code § 56-585.1 A 6, as contemplated by Code § 56-585.1:11 C.

6 **Q. What is included for cost recovery in proposed Rider OSW?**

7 A. The Company is seeking cost recovery for the offshore generating facilities as well as  
8 associated electrical transmission and distribution facilities required to interconnect the  
9 Project.

10 **Q. What is the total amount the Company is requesting for recovery in Rider OSW?**

11 A. The Company is requesting to recover a total cost of \$9.8 billion over the course of 30  
12 years. The revenue requirement associated with Rider OSW for the first rate year (“Rate  
13 Year”) of September 1, 2022 through August 31, 2023 is \$78.702 million.

14 **Q. What information is the Company presenting in support of its request for approval  
15 of Rider OSW?**

16 A. The information supporting the Company’s request for approval of Rider OSW mirrors  
17 the Company’s application for other new RACs. The Company is presenting the pre-  
18 filed direct testimony of Chris Lee, who will address regulatory accounting issues  
19 regarding the new RAC, Scott Gaskill, who will address cost allocation, and Tim Stuller,  
20 who will provide testimony on rate design. These witnesses also address the relevant  
21 responses to the questions set forth in the Commission’s Order for their areas of

1 responsibility. In addition to this witness testimony, the Company will present filing  
2 schedules as required by the Rate Case Rules (20 VAC 5-204-5, *et seq.*).

3 **Q. Does this conclude your pre-filed direct testimony?**

4 A. Yes, it does.

**BACKGROUND AND QUALIFICATIONS  
OF  
JOSHUA BENNETT**

Joshua Bennett is Vice President of Offshore Wind for Dominion Energy Virginia. He has held this role since September 2020. Mr. Bennett has held various positions at the Company for over 20 years. Prior to his current position, Mr. Bennett served as the Vice President of Technical Services from 2017 to 2020, where he was responsible for engineering, outage management, capital projects, regulatory compliance, and renewable operations. He has also served as Regional Director for the Chesterfield and Bellemeade Power Stations, Director for the Yorktown Power Station, Operations Manager at the Chesterfield Power Station and Chesapeake Energy Center, and Supervisor of Technical Support at the Chesapeake Energy Center. Prior to Dominion Energy, he worked as a power and controls engineer at Westinghouse and IDAX, Inc. He holds a bachelors degree in Electrical Engineering from New Jersey Institute of Technology (1993) and a Masters in Business Administration from Old Dominion University (2001). He is a veteran of the US Navy submarine force. Mr. Bennett has testified previously before the Commission.



## WITNESS DIRECT TESTIMONY SUMMARY

Witness: Glenn A. Kelly

Title: Director of Integrated Strategic Planning

Summary:

Company Witness Glenn A. Kelly supports the forecasted need for the Coastal Virginia Offshore Wind Commercial Project (the “CVOW Commercial Project” or “Project”) and the Company’s economic analyses supporting the reasonableness and prudence of the Project to meet customers’ capacity, energy, and REC needs. Mr. Kelly also sponsors or co-sponsors portions of Filing Schedule 46.

Mr. Kelly explains that the Project is needed to comply with the requirements of the Virginia Clean Economy Act, including developing significant renewable energy generation in the Commonwealth and providing RECs for the Company’s RPS Program compliance. The Project will provide capacity, energy, and environmental benefits for all customers, including reducing the system’s carbon emissions and associated expenses, and is critical for resource diversity within the Company’s fleet. The CVOW Commercial Project is eligible for federal investment tax credits that will reduce the overall cost to customers under current tax law by approximately \$1.05 billion (NPV), which could increase based on pending federal legislation. Finally, the CVOW Commercial Project is critical for resource diversity within the Company’s fleet.

Mr. Kelly presents the economic analysis comparing the CVOW Commercial Project under a COS price structure to the PJM power market. The assumptions used are consistent with those that were used in the Company’s 2021 IRP Update. The CVOW Commercial Project’s net present value (“NPV”) is \$2.5 billion, indicating it is beneficial to customers. This NPV includes the social cost of carbon benefit of \$3.2 billion. Mr. Kelly further testifies regarding sensitivities the Company conducted regarding the NPV analysis.

Company Witness Kelly also calculates the levelized cost of energy (“LCOE”) for the Project as compared to a conventional simple cycle combustion turbine (“CT”). The CVOW Commercial Project’s LCOE is \$87 per MWh in 2027 dollars, inclusive of the 30% ITC. In 2018 dollars, the Project’s LCOE is \$73 per MWh. Both calculations are well within the legislative cap of 1.4 times the cost of a CT, which is \$125 per MWh, in 2018 dollars. Therefore, the Project costs should be presumed reasonable and prudent under Va. Code § 56-585.1:11 C 1.

**DIRECT TESTIMONY  
OF  
GLENN A. KELLY  
ON BEHALF OF  
VIRGINIA ELECTRIC AND POWER COMPANY  
BEFORE THE  
STATE CORPORATION COMMISSION OF VIRGINIA  
CASE NO. PUR-2021-00142**

1 **Q. Please state your name, position of employment with Virginia Electric and Power**  
2 **Company (“Dominion Energy Virginia” or the “Company”), and business address.**

3 A. My name is Glenn A. Kelly, and I am Director of Integrated Strategic Planning. My  
4 business address is 600 East Canal Street, Richmond, Virginia 23219. A statement of my  
5 background and qualifications is attached as Appendix A.

6 **Q. Please describe your areas of responsibility with the Company.**

7 A. The Company’s Integrated Strategic Planning department develops and maintains  
8 generation production cost models for use in the Company’s planning efforts, as well as  
9 its regulatory applications and filings. As part of this effort, I am responsible for  
10 developing generation portfolio plans to serve the Company’s long-term customer  
11 capacity, energy and renewable energy certificate (“REC”) needs.

12 **Q. What is the purpose of your testimony in this proceeding?**

13 A. I am testifying in support of the Company’s proposal to construct, own, and operate  
14 offshore wind generation facilities consisting of approximately 176 14.7 megawatt  
15 (“MW”) Wind Turbine Generators (“WTGs”) located in a federal lease area beginning  
16 approximately 27 statute miles (approximately 24 nautical miles) off the coast of Virginia  
17 Beach, Virginia (“Lease Area”) and their related Offshore Export Facilities, which will  
18 transport the generated electricity to the Cable Landing Location at the State Military



1 Reservation (“SMR”) in the City of Virginia Beach, Virginia. From there, the generated  
2 electricity will utilize onshore transmission infrastructure (the “Virginia Facilities”) to  
3 connect to the electric grid (collectively, the WTGs, Offshore Export Facilities, and the  
4 Virginia Facilities are the Coastal Virginia Offshore Wind Commercial Project, referred  
5 to as the “CVOW Commercial Project” or “Project”).

6 Specifically, I will support the forecasted need for the Project and the Company’s  
7 economic analyses supporting the reasonableness and prudence of the Project to meet  
8 customers’ capacity, energy, and REC needs.

9 **Q. Are you sponsoring an exhibit in this proceeding?**

10 A. Yes. Company Exhibit No. \_\_\_\_, GAK, consisting of Schedule 1, was prepared under my  
11 direction and supervision and is accurate and complete to the best of my knowledge. I  
12 am sponsoring Sections I.A (fig. 2-3), II.B, III.A, V.B, and V.D of the Generation  
13 Appendix. I also sponsor or co-sponsor Filing Schedule 46.b.1.iii, Statement 1; Filing  
14 Schedule 46.b.1.iv, Statement 1; Filing Schedule 46.b.2.i, Statement 1; and Filing  
15 Schedule 46.b.2.v, Statement 1.

16 **Q. Mr. Kelly, how is your testimony organized?**

17 A. My direct testimony is organized as follows:

- 18 I. Forecasted Need
- 19 II. Economic Modeling for the CVOW Commercial Project
- 20 III. Levelized Cost of Energy (“LCOE”) Analysis

1 **I. FORECASTED NEED**

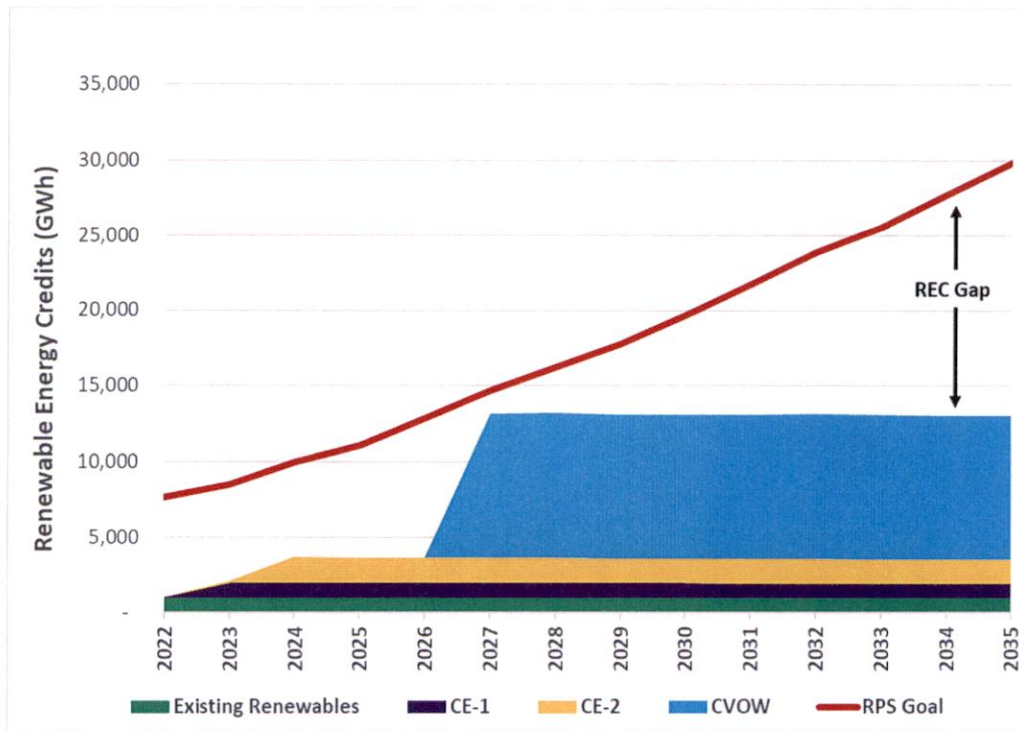
2 **Q. Please discuss the need for the CVOW Commercial Project.**

3 A. The CVOW Commercial Project is needed to comply with the Virginia Clean Economy  
4 Act (the “VCEA”). As described in the Company’s Renewable Portfolio Standards  
5 (“RPS”) Development Plan filed with the State Corporation Commission  
6 (“Commission”) on September 15, 2021, the VCEA requires the development of  
7 significant amounts of renewable energy generation in the Commonwealth, including  
8 offshore wind, and sets annual requirements for the sale of renewable energy based on a  
9 percentage of non-nuclear electric energy sold to retail customers in the Company’s  
10 service territory through the RPS Program. The CVOW Commercial Project will  
11 contribute to compliance with both requirements. The CVOW Commercial Project is  
12 also needed to serve customers’ capacity and energy needs.

13 **Q. How will the CVOW Commercial Project contribute to compliance with the RPS**  
14 **Program requirements?**

15 A. As a renewable generation resource, the CVOW Commercial Project will produce RECs  
16 that the Company can use to meet its annual RPS Program requirements. One REC is  
17 generated for every one megawatt-hour (“MWh”) of energy generated. Figure 1  
18 illustrates the estimated volume of RECs needed through 2035 for RPS Program  
19 compliance compared to the RECs produced by the Company’s existing, approved, and  
20 proposed renewable generation resources.

**Figure 1: Estimated RPS Program Requirements Through 2035**



1 In 2030, the estimated annual need for RECs exceeds 20,000 gigawatt-hours (“GWh”).  
 2 From 2030 through 2035, that estimated annual need grows to over 29,000 GWh of  
 3 RECs. With a nominal capacity of 2,587 MW, the CVOW Commercial Project is  
 4 expected to provide approximately 9,500 GWh of energy production, or approximately  
 5 47%, towards the need for RECs in 2030. As the need for RECs to meet the RPS  
 6 Program requirements grows, this Project will contribute approximately 32% of RECs in  
 7 2035.

8 **Q. What are the Company’s current capacity and energy requirements without the**  
 9 **CVOW Commercial Project?**

10 A. Figures 2 and 3 illustrate the Company’s current capacity and energy positions without  
 11 any new generating resources. These figures are based on the 2021 PJM Load Forecast

1 scaled down to the Dominion Energy Virginia load serving entity level, and then adjusted  
2 to account for energy efficiency programs and retail choice. These figures, on the  
3 following two pages, reflect the same assumption related to existing unit retirements in  
4 Alternative Plan B of the 2021 update (the “2021 IRP Update”) to the Company’s 2020  
5 Integrated Resource Plan.

Figure 2.1: Current Company Capacity Position without the CVOW Commercial Project

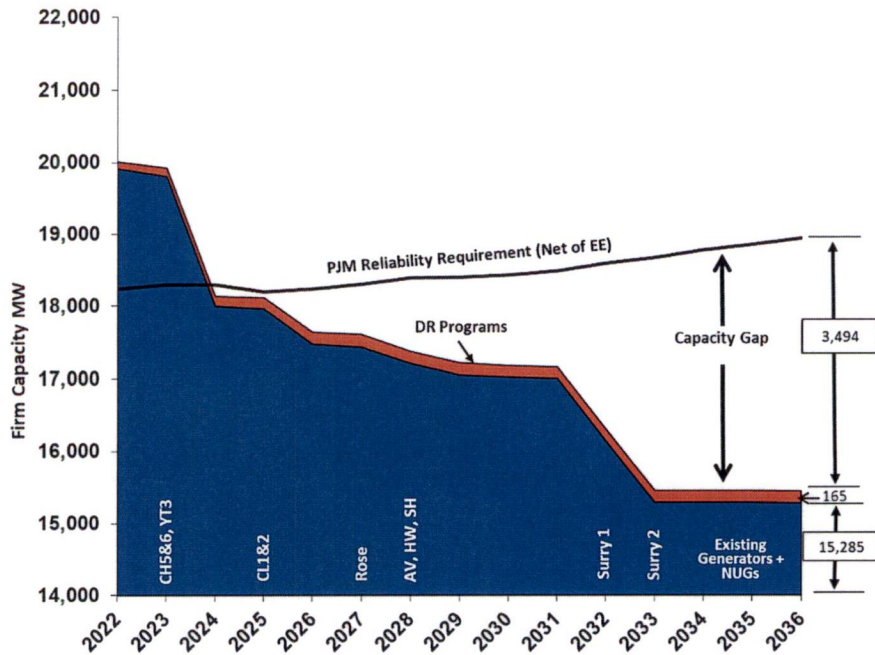
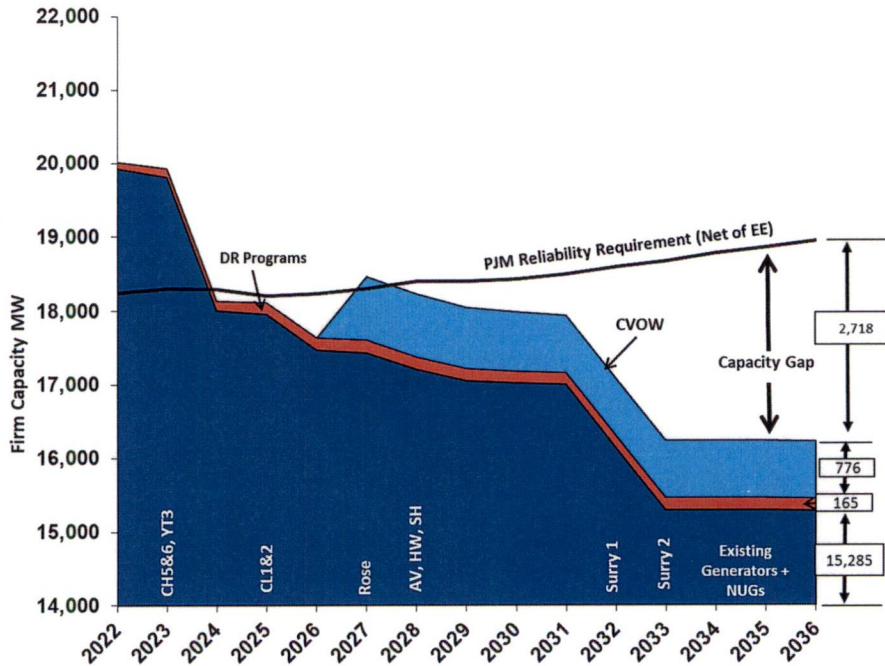
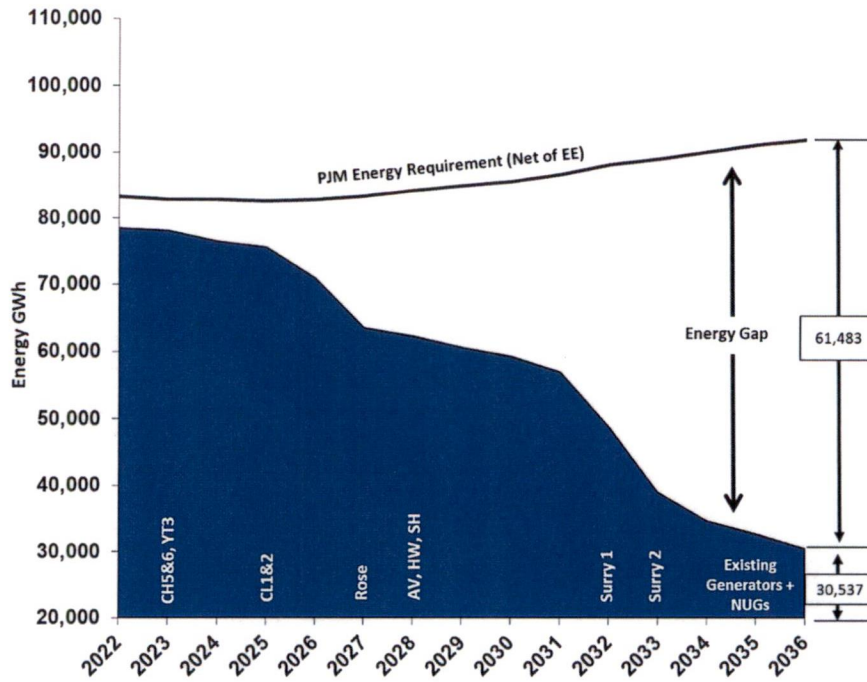


Figure 2.2: Company Capacity Position with the CVOW Commercial Project

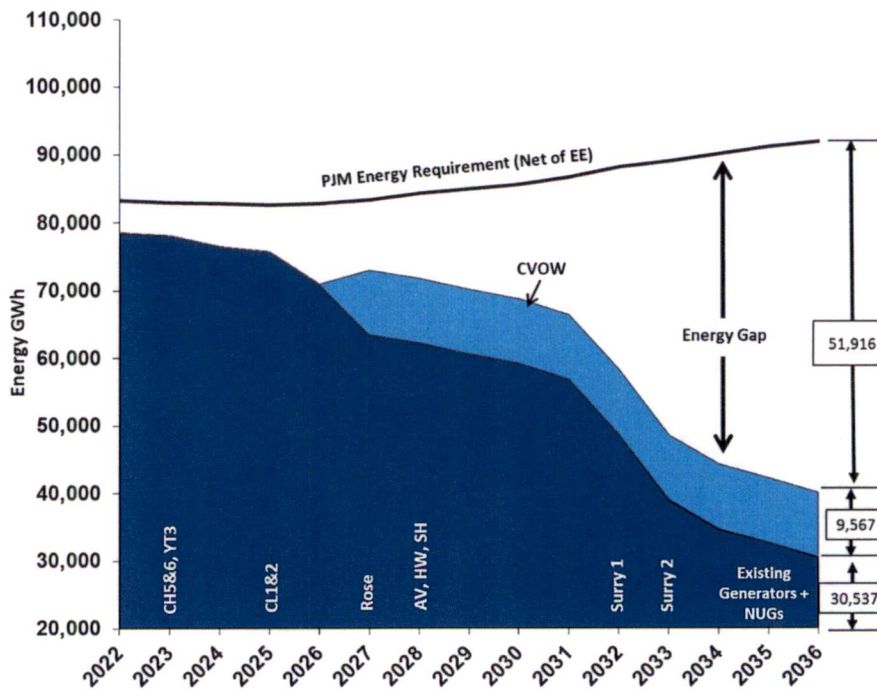


Notes: “Existing Generators + NUGs” also include generation under construction; “DR” = demand response; “EE” = energy efficiency; “CH5&6” = retirement of Chesterfield Units 5 & 6 (coal); “YT3” = retirement of Yorktown Unit 3 (oil); “CL1&2” = retirement of Clover Units 1 & 2 (coal); “Rose” = retirement of Rosemary (oil); “AV” = retirement of Altavista (biomass); “HW” = retirement of Hopewell (biomass); “SH” = retirement of Southampton (biomass); “Surry 1” and “Surry 2” = expiration of Surry Unit 1 and 2 licenses (nuclear).

**Figure 3.1: Current Company Energy Position without the CVOW Commercial Project**



**Figure 3.2: Current Company Energy Position with the CVOW Commercial Project**



Notes: “Existing Generators + NUGS” also include generation under construction; “DR” = demand response; “EE” = energy efficiency; “CH5&6” = retirement of Chesterfield Units 5 & 6 (coal); “YT3” = retirement of Yorktown Unit 3 (oil); “CL1&2” = retirement of Clover Units 1 & 2 (coal); “Rose” = retirement of Rosemary (oil); “AV” = retirement of Altavista (biomass); “HW” = retirement of Hopewell (biomass); “SH” = retirement of Southampton (biomass); “Surry 1” and “Surry 2” = expiration of Surry Unit 1 and 2 licenses (nuclear).



1 As the above figures demonstrate, there is a capacity and energy need in both the near  
2 and long term. The CVOW Commercial Project will contribute to the mix of future  
3 resources to meet customers' projected capacity and energy needs.

4 **Q. How does the Company plan to reliably meet its customers' peak capacity and**  
5 **energy needs over the next several years? (Va. Code § 56-580 D)**

6 A. The Company's general objective is to identify a mix of clean resources necessary to  
7 meet its customers' projected capacity and energy needs in an efficient and reliable  
8 manner at the lowest reasonable cost, while considering future changes in public policy  
9 and environmental regulations. Such considerations include the need to develop  
10 significant amounts of in-state solar, wind, and energy storage resources to meet the  
11 requirements of the VCEA, as discussed in the RPS Development Plan. In addition, the  
12 Company has filed to extend the operating license for its existing four nuclear units  
13 (Surry 1 and 2 and North Anna 1 and 2) for an additional 20 years.

14 **Q. What are the benefits of adding the CVOW Commercial Project to the Company's**  
15 **existing generation fleet at this time?**

16 A. The CVOW Commercial Project will provide capacity, energy, and environmental  
17 benefits for all customers. The Project will also help to meet the requirements of the  
18 VCEA and reduce the system's carbon emissions and associated expenses. In addition,  
19 as I will discuss later in my testimony, the CVOW Commercial Project is eligible for  
20 federal investment tax credits ("ITCs") that will reduce the overall cost to customers  
21 under current tax law by approximately \$1.05 billion on a net present value basis  
22 ("NPV"). Finally, the CVOW Commercial Project is critical for resource diversity within  
23 the Company's fleet.

1 **Q. How will the CVOW Commercial Project help meet customers' energy**  
2 **requirements?**

3 A. As noted above, the CVOW Commercial Project will produce over 9,500 GWh of carbon  
4 free energy annually for the Commonwealth.

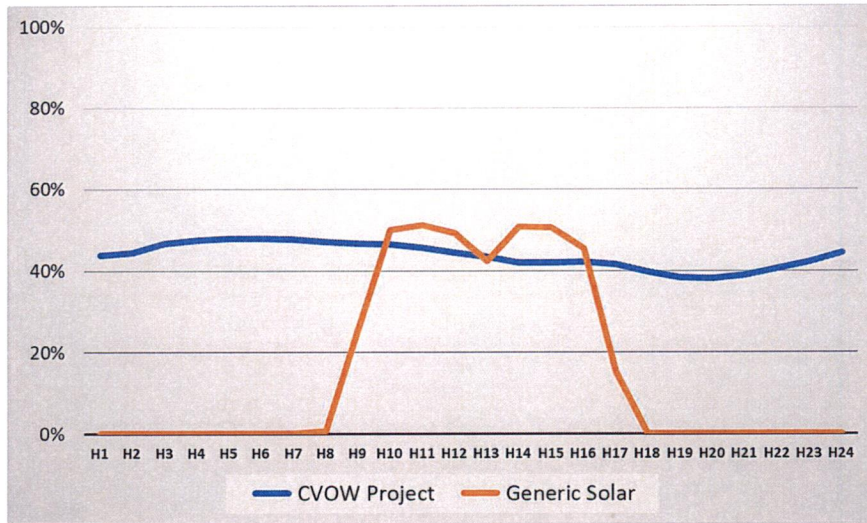
5 The additional wind generation is also consistent with the public policy objectives of the  
6 VCEA to promote the construction and development of new renewable resources in the  
7 Commonwealth. These projects, in combination with other carbon-free resources such as  
8 nuclear, solar, onshore wind, and energy efficiency, will assist in meeting carbon  
9 regulation requirements, and will support the Company's continued efforts to reduce  
10 regional carbon dioxide ("CO<sub>2</sub>") emissions and promote fuel diversity by avoiding over-  
11 reliance on any single fuel commodity.

12 **Q. How does the CVOW Commercial Project contribute to generation fleet diversity?**

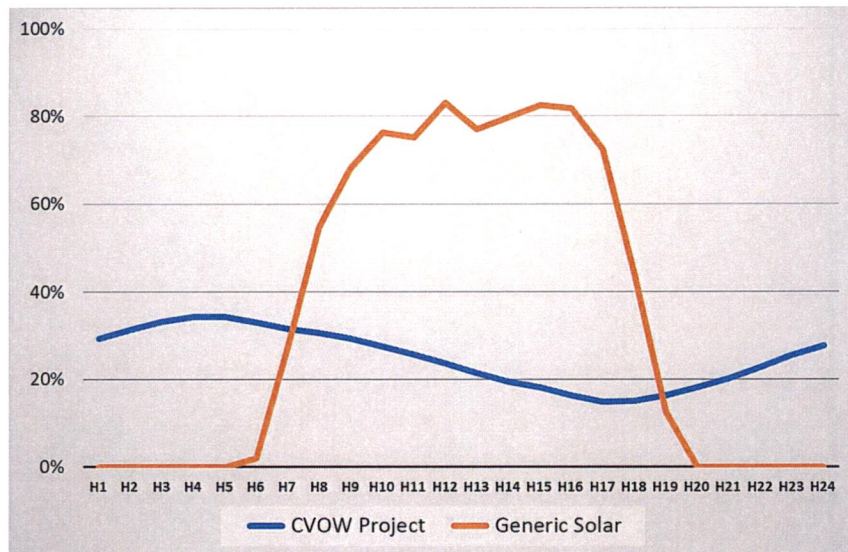
13 A. Figures 4 and 5 illustrate generation profiles of the CVOW Commercial Project and a 60  
14 MW generic solar tracker unit in January and July respectively. Figure 6 illustrates  
15 generation profiles of the same units but on a monthly average basis.



**Figure 4. Average Capacity Factor in January**

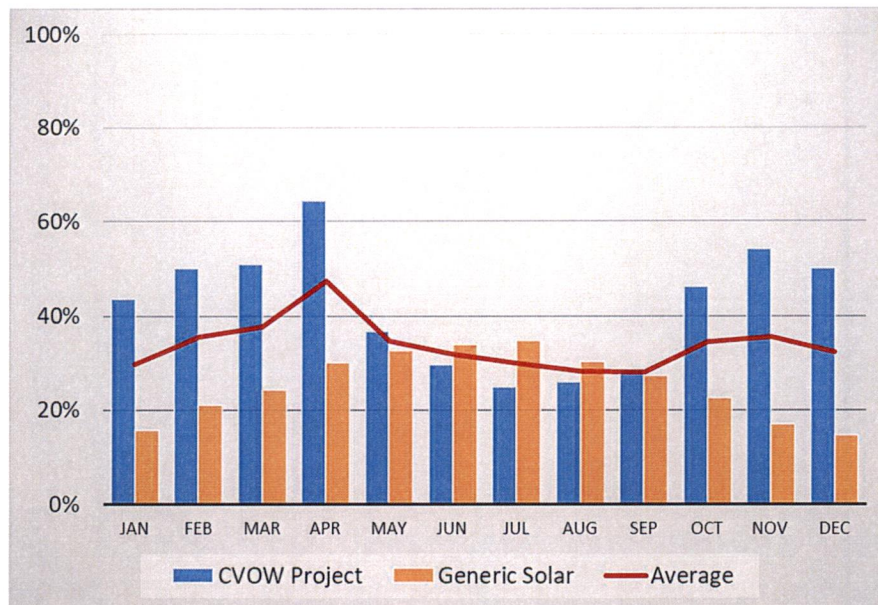


**Figure 5. Average Capacity Factor in July**



1 As shown in Figures 4 and 5, the CVOW Commercial Project is estimated to provide  
 2 energy during night hours both in summer and winter when solar generation is not  
 3 available. Figure 6 further illustrates that the CVOW Commercial Project is expected to  
 4 provide additional energy in winter and shoulder months of the year when solar generates  
 5 less. These attributes make the CVOW Commercial Project an essential part of portfolio  
 6 diversification.

**Figure 6. Monthly Capacity Factor**



1 **Q. Concerning diversity, how much solar and batteries would be required to replace**  
2 **the CVOW Commercial Project generation?**

3 A. Since the CVOW Commercial Project generates at a higher capacity factor, more at night  
4 and more during the winter, as much as 25 GWs of batteries and 20 GWs of solar would  
5 be required to produce the same MWh profile as the CVOW Commercial Project.

6 **Q. Is development of the CVOW Commercial Project consistent with the Company's**  
7 **2021 IRP Update?**

8 A. Yes. All VCEA compliant alternative plans presented in the 2021 IRP Update include  
9 the CVOW Commercial Project. In the Company's view, compliance with the VCEA in  
10 future years requires an all-of-the-above approach to zero carbon resources, meaning  
11 solar, batteries, nuclear, and offshore wind are needed.

1 **II. ECONOMIC MODELING FOR THE CVOW COMMERCIAL PROJECT**

2 **Q. Please describe the economic analysis conducted by the Company to evaluate the**  
3 **costs and benefits of the CVOW Commercial Project.**

4 A. The analytical process for evaluating the Project consisted of comparing Project costs  
5 (*i.e.*, capital and operation and maintenance (“O&M”)) with benefits (*e.g.*, capacity,  
6 energy, RECs). PLEXOS modeling software was used to calculate the Project’s NPV to  
7 customers over the 30-year operating life for the Project under a cost of service (“COS”)  
8 methodology.

9 The Company contracted with ICF for an independent forecast of future energy, capacity,  
10 fuel, and emissions prices for use in the evaluation. Positive NPV results indicate that a  
11 project is beneficial to customers compared to the PJM market.

12 **Q. What commodities forecast did the Company use in its economic analysis?**

13 A. The Company used a commodity forecast from ICF, vintage March 2021, consistent with  
14 the 2021 IRP Update. Specifically, the Company used the Federal CO<sub>2</sub> with Virginia in  
15 the Regional Greenhouse Gas Initiative (“RGGI”) commodity forecast from the 2021 IRP  
16 Update, which reflects Virginia joining RGGI in 2021 and a federal carbon program  
17 assumed to begin in 2026.

1 **Q. What capacity factors and capacity values did the Company use in its economic**  
2 **analysis for the CVOW Commercial Project?**

3 A. The Company used the design capacity factor for each WTG adjusted down for the  
4 forecasted wake effects from multiple WTGs, as well as planned and projected forced  
5 outage time, which resulted in a 42% average capacity factor. For the capacity value, the  
6 Company used the effective load carrying capability (“ELCC”) methodology annual  
7 values from the PJM July 2021 ELCC Report. The value for offshore wind resources  
8 starts at approximately 33% in 2027 and drops to 30% in the later years when PJM  
9 expects more renewables to penetrate the market.

10 **Q. How were ITCs considered in the economic analysis?**

11 A. Under the current federal tax code and current accounting guidance, approximately  
12 83.27% of the CVOW Commercial Project’s capital expenditures will qualify for the  
13 30% ITCs, worth approximately \$1.05 billion (NPV). See Company Witness Joshua  
14 Bennett’s testimony for further discussion on Project ITC eligibility.

15 **Q. Could the Company utilize Production Tax Credits (“PTCs”) instead of the ITC for**  
16 **the Project?**

17 A. Yes. Under current law, the Project could be eligible to receive a PTC for 60% of its  
18 output for the first ten years of operation. The Company has determined that, under this  
19 scenario, the ITC provides the greatest value for customers.

20 However, the Company is aware of pending Federal legislation that may increase the  
21 PTC to apply to 100% output for ten years. At the time of this filing, this legislation has  
22 not been passed by Congress or signed into law. However, under this potential scenario

1 the 100% PTC could provide additional value to customers greater than the ITC scenario.  
2 Ultimately, the Company would utilize whichever tax credit provides the best value of  
3 customers.

4 **Q. Did the Company include any other benefits into its economic analysis for the**  
5 **CVOW Commercial Project?**

6 A. Yes. Under § 56-585.5 D 5 of the Code of Virginia (“Va. Code” or “Code”), if, in any  
7 year, the Company is unable to meet its compliance obligation of the RPS Program  
8 requirements, the Company must make a deficiency payment equal to \$45 for each  
9 megawatt-hour shortfall for the year of noncompliance. Thus, the Company incorporated  
10 the \$45/MWh deficiency payment into its economic analysis for the CVOW Commercial  
11 Project as an avoided cost. The Company also factored in a social cost of carbon benefit  
12 for the CVOW Commercial Project, as required by Va. Code § 56-585.1 A 6.

13 **Q. Please describe the benefit related to the social cost of carbon.**

14 A. The “social cost of carbon” is an estimate in dollars of the economic damages that result  
15 from emitting an additional ton of carbon into the air. While social cost of carbon  
16 estimates in dollars per ton can vary significantly between organizations, the federal  
17 government has produced and updated a forecasted social cost of carbon since the 1980s.  
18 In February 2021, the Biden Administration published a revised social cost of carbon  
19 forecast that begins at \$51 per metric ton in 2021. As noted above, the Company must  
20 include the social cost of carbon as a benefit or a cost, whichever is appropriate, in any  
21 evaluation of new generating facilities.

22 Offshore wind is a carbon-free resource, so it provides a social cost of carbon benefit, as

1 recognized by the Commission in PUR-2020-00134. Specifically, this carbon-free  
2 resource displaces the output from fossil fuel-fired facilities and thus reduces overall  
3 carbon emissions.

4 To factor this benefit into its analysis, the Company assumed that the CVOW  
5 Commercial Project's carbon-free generation would displace PJM purchased power. The  
6 Company thus multiplied the Project's annual generation by the marginal CO<sub>2</sub> emissions  
7 intensity from the 2020 PJM Emission Report to determine how much carbon the Project  
8 would displace. The Company then multiplied that amount by the forecasted social cost  
9 of carbon published by the federal government to determine the Project's social cost of  
10 carbon benefit. Finally, the Company then added this benefit to the NPV results for the  
11 Project.

12 **Q. With this background, please summarize the economic analysis performed for the**  
13 **CVOW Commercial Project.**

14 A. The Company conducted a financial analysis comparing the CVOW Commercial Project  
15 under a COS price structure to the PJM power market. The assumptions used are  
16 consistent with those that were used in the Company's 2021 IRP Update.

17 When modeled, the CVOW Commercial Project's NPV is \$2.5 billion, indicating that the  
18 CVOW Commercial Project is beneficial to customers. This NPV includes the social  
19 cost of carbon benefit of \$3.2 billion.

20 **Q. Did the Company model any sensitivities for the CVOW Commercial Project?**

21 A. Yes. The Company performed a sensitivity for the CVOW Commercial Project by  
22 replacing the PJM load forecast with the Company's Load Forecast. The CVOW

1 Commercial Project's NPV under this sensitivity is \$2.6 billion, including \$3.2 billion of  
2 the social cost of carbon benefit.

### 3 III. LCOE ANALYSIS

4 **Q. Did the Company conduct additional economic analysis related to the CVOW**  
5 **Commercial Project?**

6 A. Yes. Under Va. Code § 56-585.1:11 C 1, the construction by a Phase II Utility, which the  
7 Company is, of one or more new utility-owned and operated generating facilities utilizing  
8 energy derived from offshore wind and located off the Commonwealth's Atlantic  
9 shoreline, with an aggregate rated capacity of between 2,500-3,000 MWs, along with  
10 electrical transmission or distribution facilities associated therewith for interconnection is  
11 in the public interest. This Code provision further provides that the costs of such a  
12 facility shall be presumed to be reasonably and prudently incurred if, among other things,  
13 the Project's projected total levelized cost of energy, including any tax credit, on a cost  
14 per MWh basis, inclusive of the interconnection costs, "does not exceed 1.4 times the  
15 comparable cost, on an unweighted average basis, of a conventional simple cycle  
16 combustion turbine generating facility as estimated by the U.S. Energy Information  
17 Administration in its Annual Energy Outlook 2019."

18 Accordingly, the Company has also calculated the LCOE for the CVOW Commercial  
19 Project as compared to a conventional simply cycle combustion turbine ("CT").

20 **Q. What is the CT LCOE estimated by the U.S. Energy Information Administration**  
21 **("EIA") in the Annual Energy Outlook 2019?**

22 A. As shown in my Schedule 1, the EIA CT LCOE is \$89 per MWh in 2018 dollars. After



1 multiplying this figure by 1.4, the result is \$125 per MWh in 2018 dollars.

2 **Q. What is the CVOW Commercial Project LCOE?**

3 A. The CVOW Commercial Project's LCOE is \$87 per MWh in 2027 dollars, inclusive of  
4 the 30% ITC. For further comparison, the LCOE for the Project in 2018 dollars is \$73  
5 per MWh. Thus, the Project's LCOE is less than 1.4 times the cost of a CT, which as  
6 stated above, is \$125 per MWh in 2018 dollars.

7 A detailed calculation of the LCOE for the CVOW Commercial Project, including a  
8 description of all components and the inputs thereto is provided in Attachment III.A of  
9 the Generation Appendix and also discussed in the direct testimony of Company Witness  
10 Bennett.

11 **Q. Did you perform any sensitivities for the LCOE?**

12 A. Yes. As mentioned earlier in my testimony there is a strong possibility that the Project  
13 would be able to utilize a full 100% PTC in lieu of the ITC. Under this scenario, the  
14 LCOE decreases to \$80 per MWh (in 2027 dollars), providing even more value to  
15 customers.

16 **Q. Please summarize your testimony.**

17 A. The CVOW Commercial Project is needed to comply with the VCEA. In addition, this  
18 Project will contribute to the mix of future resources to meet customers' projected  
19 capacity and energy needs. The Company's economic analysis for the CVOW  
20 Commercial Project demonstrates that Project provides a positive NPV as compared to  
21 market purchases. The Company considers the CVOW Commercial Project to be a  
22 reasonable and cost-effective option to meet customers' capacity, energy, and RECs



1 needs under the VCEA.

2 **Q. Does this conclude your pre-filed direct testimony?**

3 A. Yes, it does.

**BACKGROUND AND QUALIFICATIONS  
OF  
GLENN A. KELLY**

Glenn A. Kelly joined Dominion Energy Virginia in 1986 as an engineer after graduating from Virginia Tech with a Bachelor of Science degree in Mechanical Engineering. He received a Master of Business Administration degree from Averett University in 1998.

After working eleven years as a performance and project engineer at the Chesapeake Energy Center and the Yorktown Power Station, Mr. Kelly transferred to the Company's Power Generation Technical Services Department in Richmond as a Generation Performance Specialist. Following a series of positions supporting Power Generation operations, he earned his Six Sigma Master Black Belt and became Manager of Planning and Analysis in 2004. His responsibilities included Energy Supply PJM support, fuel expense and variance reporting, generation forecasting, and project financial analysis.

In September 2007, Mr. Kelly was promoted to Director – Generation System Planning for Dominion Energy Virginia. In December 2019, Mr. Kelly expanded his role and changed titles to Director – Integrated Strategic Planning. In this role he is responsible for Dominion Energy's coordination and strategic planning over multiple business segments. The role includes all the responsibilities that he has in Virginia like developing generation portfolio plans to serve customers' future energy and capacity requirements and monitoring fuel expenses and providing forecasted operational data to various groups within the Company. In addition, he is now responsible for similar functions in South Carolina and other business units.

Mr. Kelly has previously submitted testimony before the State Corporation Commission of Virginia and the North Carolina Utilities Commission.



Independent Statistics & Analysis

U.S. Energy Information  
 Administration

February 2019

**Levelized Cost and Levelized Avoided Cost of New Generation  
 Resources in the *Annual Energy Outlook 2019***

**Table 1b. Estimated levelized cost of electricity (unweighted average) for new generation resources entering service in 2023 (2018 \$/MWh)**

Plant type	Capacity factor (%)	Levelized capital cost	Levelized fixed O&M	Levelized variable O&M	Levelized transmission cost	Total system LCOE	Levelized tax credit <sup>1</sup>	Total LCOE including tax credit
<b>Dispatchable technologies</b>								
Coal with 30% CCS <sup>2</sup>	85	61.3	9.7	32.2	1.1	104.3	NA	104.3
Coal with 90% CCS <sup>2</sup>	85	50.2	11.2	36.0	1.1	98.6	NA	98.6
Conventional CC	87	9.3	1.5	34.4	1.1	46.3	NA	46.3
Advanced CC	87	7.3	1.4	31.5	1.1	41.2	NA	41.2
Advanced CC with CCS	87	19.4	4.5	42.5	1.1	67.5	NA	67.5
Conventional CT	30	28.7	6.9	50.5	3.2	89.3	NA	89.3
Advanced CT	30	17.6	2.7	54.2	3.2	77.7	NA	77.7
Advanced nuclear	90	53.8	13.1	9.5	1.0	77.5	NA	77.5
Geothermal	90	26.7	12.9	0.0	1.4	41.0	-2.7	38.3
Biomass	83	36.3	15.7	39.0	1.2	92.2	NA	92.2
<b>Non-dispatchable technologies</b>								
Wind, onshore	41	39.8	13.7	0.0	2.5	55.9	-6.1	49.8
Wind, offshore	45	107.7	20.3	0.0	2.3	130.4	-12.9	117.5
Solar PV <sup>3</sup>	29	47.8	8.9	0.0	3.4	60.0	-14.3	45.7
Solar thermal	25	119.6	33.3	0.0	4.2	157.1	-35.9	121.2
Hydroelectric <sup>4</sup>	75	29.9	6.2	1.4	1.6	39.1	NA	39.1

<sup>1</sup>The tax credit component is based on targeted federal tax credits such as the PTC or ITC available for some technologies. It reflects tax credits available only for plants entering service in 2023 and the substantial phase out of both the PTC and ITC as scheduled under current law. Technologies not eligible for PTC or ITC are indicated as NA or not available. The results are based on a regional model, and state or local incentives are not included in LCOE calculations. See text box on page 2 for details on how the tax credits are represented in the model.

<sup>2</sup>Because the New Source Performance Standard (NSPS) under Section 111(b) of the Clean Air Act requires conventional coal plants to be built with CCS to meet specific CO<sub>2</sub> emission standards, EIA modeled two levels of CCS removal: 30%, which meets the NSPS, and 90%, which exceeds the NSPS but may be seen as a build option in some scenarios. The coal plant with 30% CCS is assumed to incur a three-percentage-point increase to its cost of capital to represent the risk associated with higher emissions.

<sup>3</sup>Costs are expressed in terms of net AC power available to the grid for the installed capacity.

<sup>4</sup>As modeled, EIA assumes that hydroelectric generation has seasonal storage so that it can be dispatched within a season, but overall operation is limited by resources available by site and season.

CCS=carbon capture and sequestration. CC=combined-cycle (natural gas). CT=combustion turbine. PV=photovoltaic.

Source: U.S. Energy Information Administration, *Annual Energy Outlook 2019*



## WITNESS DIRECT TESTIMONY SUMMARY

Witness: Grant T. Hollett

Title: Director – Offshore Wind

Summary:

Company Witness Grant T. Hollett sponsors and co-sponsors sections of the Generation Appendix in support of the Coastal Virginia Offshore Wind Commercial Project, referred to as the “CVOW Commercial Project” or “Project” as it pertains to the overview of the generation components of the Project, information obtained from the CVOW Pilot Project and experience from industry partnerships, and the Project timeline, as follows:

- Section I.A (co-sponsored with Company Witness Glenn A. Kelly): This section provides an overview of the generation components of the Project.
- Section II.A: This section explains whether the Project is informed by relevant data and experience by addressing information obtained from the CVOW Pilot Project and experience from industry partnerships.
- Section IV.A (co-sponsored with Company Witnesses Joshua J. Bennett and Shane A. Moulton): This section provides information regarding the competitive procurement and developer requirements for the Project.

Additionally, Company Witness Hollett co-sponsors Section III.L of the Transmission Appendix pertaining to the federal permitting process. Lastly, Mr. Hollett sponsors portions of Filing Schedule 46.

A statement of Mr. Hollett’s background and qualifications is attached to his testimony as Appendix A.

**DIRECT TESTIMONY  
OF  
GRANT T. HOLLETT  
ON BEHALF OF  
VIRGINIA ELECTRIC AND POWER COMPANY  
BEFORE THE  
STATE CORPORATION COMMISSION OF VIRGINIA  
CASE NO. PUR-2021- 00142**

1 **Q. Please state your name, business address and position with Virginia Electric and**  
2 **Power Company (“Dominion Energy Virginia” or the “Company”).**

3 A. My name is Grant T. Hollett, and I am Director – Offshore Wind for the Company. My  
4 business address is 707 East Main Street, Richmond, Virginia 23219. A statement of my  
5 qualifications and background is provided as Appendix A.

6 **Q. Please describe your areas of responsibility with the Company.**

7 A. I am responsible for overseeing the development and permitting of the Company’s  
8 offshore wind facilities. This includes the development of the Coastal Virginia Offshore  
9 Wind Commercial Project (“CVOW Commercial Project”, “CVOW” or the “Project”)  
10 presented in this proceeding. I also oversaw the construction and commissioning of the  
11 Company’s 12 megawatt (“MW”) Coastal Virginia Offshore Wind demonstration project  
12 (“Pilot Project”), which was approved by the Virginia State Corporation Commission  
13 (“Commission”) in Case No. PUR-2018-00121.

14 **Q. What is the purpose of your testimony in this proceeding?**

15 A. The Company seeks to construct, own, and operate offshore wind generation facilities  
16 consisting of 176 14.7 MW Wind Turbine Generators (“WTGs”) located in a federal  
17 lease area beginning approximately 27 statute miles (approximately 24 nautical miles) off  
18 the coast of Virginia Beach, Virginia (“Lease Area”) and their related power export

1 facilities, which will transport the generated electricity to the Cable Landing Location at  
2 the State Military Reservation (“SMR”) in the City of Virginia Beach, Virginia. From  
3 there, the generated electricity will utilize onshore transmission infrastructure (the  
4 “Virginia Facilities”) to connect to the electric grid (collectively, the WTGs, related  
5 power export facilities, and the Virginia Facilities are the CVOW Commercial Project).

6 The CVOW Commercial Project is designed to provide clean, reliable offshore wind  
7 energy to Virginia customers, create the opportunity to displace electricity generated by  
8 fossil fuel-powered plants, and offer substantial economic and environmental benefits to  
9 the Commonwealth of Virginia. This Project represents a viable and needed opportunity  
10 for Virginia to obtain clean renewable energy and realize its economic and environmental  
11 goals, and for the Company to meet its statutory carbon reduction requirements.

12 The purpose of my testimony is to discuss portions of the Generation Appendix that  
13 provide the overview of the generation components of the Project, information obtained  
14 from the CVOW Pilot Project and experience from industry partnerships, environmental  
15 concerns and environmental justice issues, and the Project timeline. Specifically, I am  
16 sponsoring Section II.A of the Generation Appendix. Additionally, I co-sponsor Section  
17 I.A with Company Witness Glenn A. Kelly; and Section IV.A with Company Witnesses  
18 Joshua J. Bennett and Shane A. Moulton, where I specifically sponsor Attachments  
19 IV.A.1-3 and 5-7.

1 **Q. Are you sponsoring any filing schedules in this proceeding?**

2 A. Yes. I am sponsoring portions of Filing Schedule 46. Specifically, I sponsor Filing  
3 Schedule 46.b.1.iii, Statement 1, which addresses the justification for the proposed costs;  
4 Filing Schedule 46.b.1.iv, Statements 2-3, which address the key documents supporting  
5 the Project costs related to the generation unit; Filing Schedule 46.b.2.i, Statement 1,  
6 which addresses the need and justification for the proposed generating unit; Filing  
7 Schedule 46.b.2.ii, Statements 1-2, which addresses the feasibility and engineering  
8 studies supporting the plant type and site selected for the proposed generating unit; Filing  
9 Schedule 46.b.2.iii, Statement 1, which addresses the fuel supply studies for the proposed  
10 generating unit; and Filing Schedule 46.b.2.iv, Statement 1, which addresses the planning  
11 assumptions for the proposed generating unit.

12 **Q. Do you sponsor any sections in the Transmission Appendix of this filing?**

13 A. Yes. I also co-sponsor Section III of the Transmission Appendix with Company  
14 Witnesses Lane E. Carr, Robert E. Richardson, Rachel M. Studebaker, and Jon M. Berkin  
15 pertaining to the impact of the proposed Virginia Facilities on scenic, environmental, and  
16 historic features. Specifically, I discuss the federal permitting process for the CVOW  
17 Commercial Project in Section III.L of the Transmission Appendix.

18 **Q. Does this conclude your pre-filed direct testimony?**

19 A. Yes, it does.



**BACKGROUND AND QUALIFICATIONS  
OF  
GRANT T. HOLLETT**

Grant T. Hollett is Director - Offshore Wind for Dominion Energy Virginia. He has held this role since June 2019. Since joining the Company in 2007, Mr. Hollett has held various positions throughout the years. Prior to his current position, Mr. Hollett served as the Director – Energy Financial Management from 2017 to 2018, where he worked on financial consolidation for the Gas Infrastructure Group. He has also served as Director – Midstream, Manager – Cove Point Engineering Projects, and Senior Business Development Manager.

Mr. Hollett holds a Bachelor of Science in Mechanical Engineering and Material Science from Duke University and a Master of Business Administration from Duke University's Fuqua School of Business.



## WITNESS DIRECT TESTIMONY SUMMARY

Witness: Lauren V. Adkins  
Title: Director, Corporate Finance

Summary:

Company Witness Lauren V. Adkins addresses the Project's foreign currency exposure risks and the Company's Foreign Currency Risk Mitigation Plan.

Specifically, Ms. Adkins testifies that because certain of the contract agreements supporting the Project have been or are expected to be executed in foreign currency, the Project's U.S. dollar ("USD") costs are subject to fluctuations in exchange rates of the foreign currency to U.S. dollars. Specifically, the Project has approximately \$2.876 billion Euro (or EUR) exposure, which is approximately \$3.399 billion USD at an exchange rate of \$1.1818 per Euro; and approximately 3,895 million Danish Krone (or Kr) exposure, which is approximately \$622 million USD at an exchange rate of \$0.1597 per Kr. She explains that with this level of exposure and based on historical data, a 9% increase in USD/EUR exchange rates would increase Project costs by approximately \$360 million, and an 18% increase USD/EUR exchange rates would increase costs by approximately \$720 million.

Ms. Adkins testifies that the Company has concluded that the optimal pricing risk mitigation for the Project will include an economic mix of USD-based supplier contracts and financial hedging of remaining currency valuation risk through the supplier itself or financial institutions.

With respect to financial hedging, Ms. Adkins testifies that the Company is planning financial hedges of foreign currency exposure via a series of long-dated foreign exchange ("FX") Forwards to be executed shortly after Commission approval, unless market conditions dictate otherwise. FX Forwards will be the most economically beneficial as they will lock in a USD price for customers and eliminate exposure to movements in foreign currency exchange rates. Additionally, utilizing a strategy of long-dated hedges will provide significant flexibility to move the hedges between contracts reducing the risk of any hedge adjustments in the future that could be costly. By entering into a FX Forward hedge on substantially all of the contracts where foreign currency exposure exists, any future market volatility will be borne by the hedging counterparty and not customers. The Company believes it is reasonable and prudent to manage the currency exposure in this manner for the benefit of customers.

Finally, Ms. Adkins addresses the projected costs for the planned financial hedges.

**DIRECT TESTIMONY  
OF  
LAUREN V. ADKINS  
ON BEHALF OF  
VIRGINIA ELECTRIC AND POWER COMPANY  
BEFORE THE  
STATE CORPORATION COMMISSION OF VIRGINIA  
CASE NO. PUR-2021-00142**

1 **Q. Please state your name, business address, and position with Virginia Electric and**  
2 **Power Company (“Dominion Energy Virginia” or the “Company”).**

3 A. My name is Lauren V. Adkins, and my business address is 120 Tredegar Street,  
4 Richmond, Virginia 23219. I am Director, Corporate Finance for Dominion Energy  
5 Services, Inc., testifying on behalf of Dominion Energy Virginia. A statement of my  
6 background and qualifications is attached as Appendix A.

7 **Q. Please describe your areas of responsibility with the Company.**

8 A. I am responsible for strategically planning and executing the Company’s financing plan  
9 across eight external financing entities as well as managing various intercompany  
10 financing needs. This includes oversight of the financial reporting and compliance of  
11 capital markets activity. I oversee the Company’s interest rate risk management  
12 programs for commercial paper programs, credit facility and letters of credit, as well as  
13 the Dominion Energy Reliability Investment program. I am responsible for maintaining  
14 the Company’s relationships with 23 core banks, as well as developing relationships with  
15 prospective and diversity banks.

16 **Q. What is the purpose of your testimony in this proceeding?**

17 A. I am testifying in support of the Company’s proposal to construct, own, and operate  
18 offshore wind generation facilities consisting of approximately 176 14.7 megawatt

1 (“MW”) Wind Turbine Generators (“WTGs”) located in a federal lease area beginning  
2 approximately 27 statute miles (approximately 24 nautical miles) off the coast of Virginia  
3 Beach, Virginia (“Lease Area”) and their related Offshore Export Facilities, which will  
4 transport the generated electricity to the Cable Landing Location at the State Military  
5 Reservation (“SMR”) in the City of Virginia Beach, Virginia. From there, the generated  
6 electricity will utilize onshore transmission infrastructure (the “Virginia Facilities”) to  
7 connect to the electric grid (collectively, the WTGs, Offshore Export Facilities, and the  
8 Virginia Facilities are the Coastal Virginia Offshore Wind Commercial Project, referred  
9 to as the “CVOW Commercial Project” or “Project”).

10 Specifically, I will address the Project’s foreign currency exposure risks and the  
11 Company’s Foreign Currency Risk Mitigation Plan.

12 **Q. Please explain the CVOW Commercial Project’s currency exposure risk.**

13 A. Because certain of the contract agreements supporting the Project have been or are  
14 expected to be executed in foreign currency, the Project’s U.S. dollar (“USD”) costs are  
15 subject to fluctuations in exchange rates of the foreign currency to U.S. dollars.

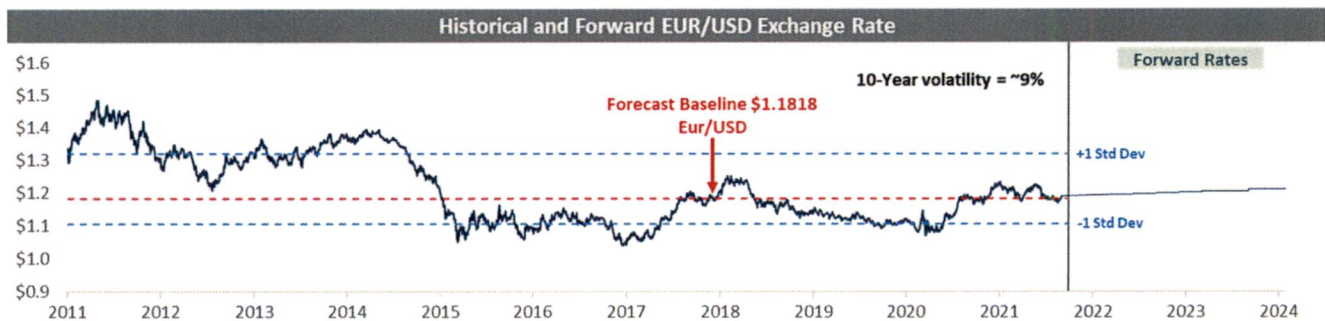
16 Specifically, the Project has approximately \$2.876 billion Euro (or EUR) exposure,  
17 which is approximately \$3.399 billion USD at an exchange rate of \$1.1818 per Euro; and  
18 approximately 3,895 million Danish Krone (or Kr) exposure, which is approximately  
19 \$622 million USD at an exchange rate of \$0.1597 per Kr, as detailed in the direct  
20 testimony of Company Witness Mark D. Mitchell, Schedule 2.

1 **Q. Please discuss the volatility in foreign currency exchange rates and how it impacts**  
2 **Project costs.**

3 A. Since the change in Danish Krone exchange rates has strong correlation to the change in  
4 Euro exchange rates, the Company can hedge all the foreign currency exposure by  
5 hedging approximately \$4 billion of Euro exposure - that is the sum total of all foreign  
6 currency exposure. Over the last 10 years, Euro/USD exchange rates have ranged  
7 anywhere between 1.0388 to 1.4259 USD/Euro. Changes in currency exchange rates are  
8 largely driven by geopolitical events and monetary policies associated with the currency,  
9 as well as balance of trade.

10 As shown in the Figure 1 below, the standard deviation of USD/EUR exchange rates has  
11 been ~9% above and below the mean. The current forecast assumes 1.1818 USD/EUR,  
12 which is roughly in line with the current spot rates.

13 **Figure 1**



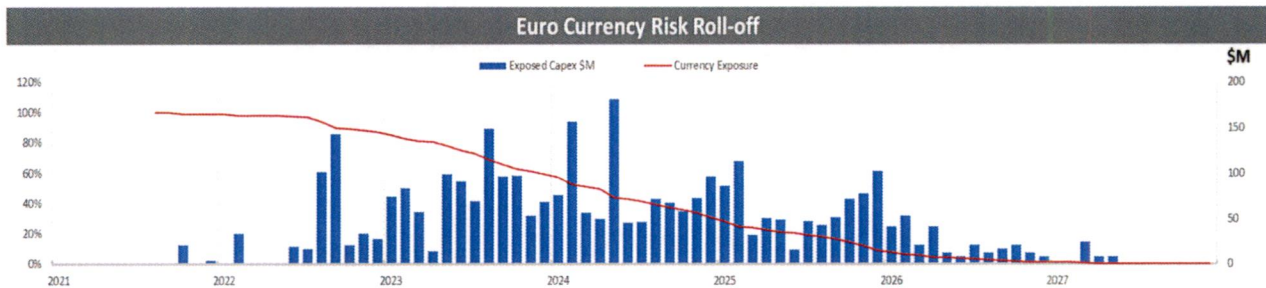
14  
15 History is not a predictor of the future, but if we assume the exchange rates are normally  
16 distributed, there is an approximately 33% likelihood that the exchange rates could be  
17 higher than one standard deviation, or 9%, and an approximately 5% likelihood that  
18 exchange rates could be higher than two standard deviations, or 18%.

1 To put that in perspective for the Project, a 9% increase in USD/EUR exchange rates  
2 would increase Project costs by approximately \$360 million, and an 18% increase  
3 USD/EUR exchange rates would increase costs by approximately \$720 million. This, of  
4 course, is based on historical data and assumes that the exchange rates are normally  
5 distributed.

6 **Q. How can this foreign currency risk be managed?**

7 A. Currency risks decrease as payments are made as shown in Figure 2, below. Until that  
8 point and as summarized by Company Witness Mark D. Mitchell, there are multiple  
9 avenues to mitigate the foreign currency risk, including negotiating USD-based supplier  
10 contracts to minimize the total currency exposure, or entering into currency hedges  
11 through a financial institution.

12 **Figure 2**

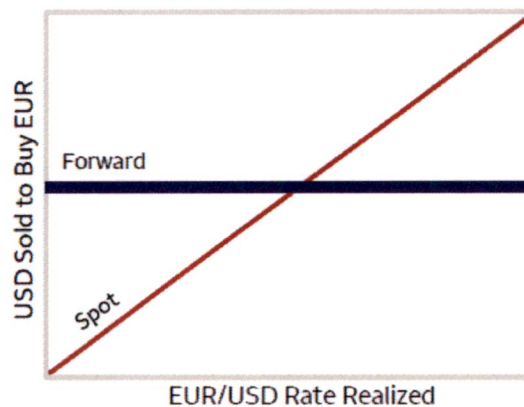


13  
14 The Company has concluded that the optimal pricing risk mitigation for the Project will  
15 include an economic mix of USD-based supplier contracts and financial hedging of  
16 remaining currency valuation risk through the supplier itself or financial institutions. The  
17 focus of my testimony is on financial hedging through financial institutions.

1 **Q. Please explain what a financial hedge is and how they are commonly designed to**  
2 **mitigate foreign currency valuation risks.**

3 A. A financial hedge is a financial transaction designed to mitigate the underlying risk – in  
4 this case foreign currency risk. There are many different types of financial transactions  
5 that can be used to “hedge” foreign currency risk. One of the most common types is a  
6 Foreign Exchange (“FX”) Forward. Essentially, as shown in Figure 3, a FX Forward  
7 establishes a known foreign currency rate for a fixed time period to support a future  
8 foreign currency transaction.

9 **Figure 3**



10  
11 The purchaser of the hedge would be required to transact at or before the end of the  
12 contract. Specifically, the Company would purchase Euro and sell USD at a pre-  
13 determined foreign currency rate. FX Forwards provide complete certainty of the future  
14 foreign currency rate regardless of the market’s movements, and therefore work best in  
15 situations where the purchaser of the hedge is certain of the transaction, is confident of  
16 the timing and amount of the exposure, and wants to hedge away the currency risk.



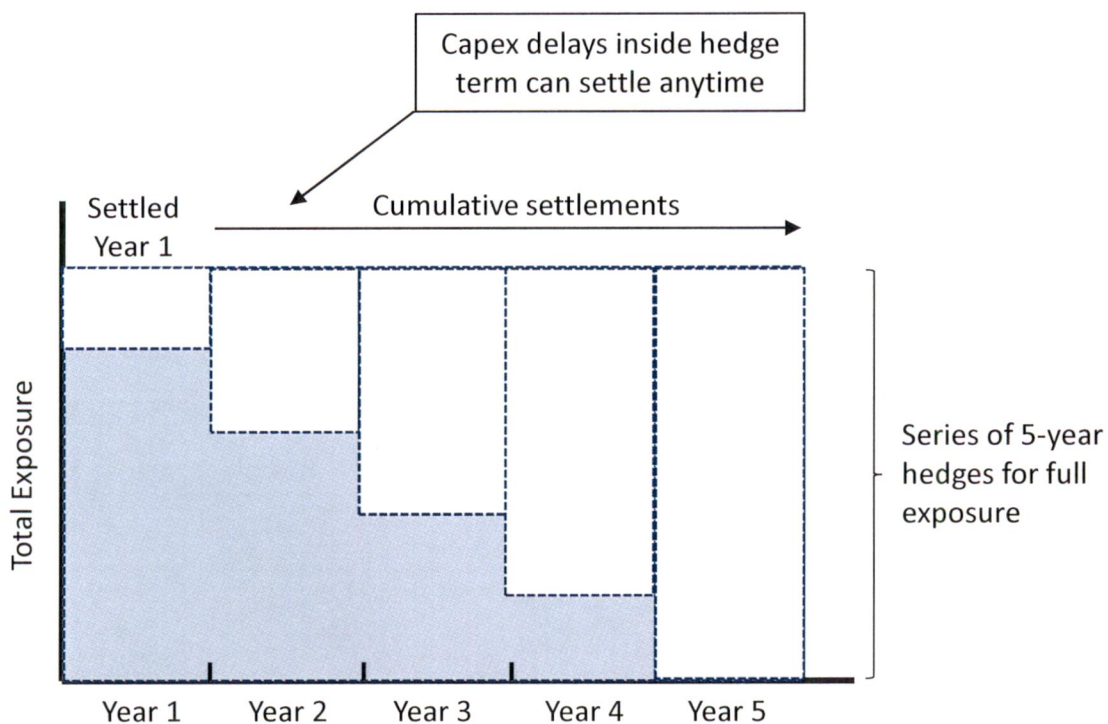
1 **Q. Are there different ways to structure a FX Forward?**

2 A. Yes, there are varying approaches to structuring a FX forward to hedge project-related  
3 future currency exposure where there are timing uncertainties surrounding the obligation.

4 One strategy is to execute a series of long-date hedges and periodically settle a portion of  
5 the hedges as the underlying currency transactions occur. This strategy provides  
6 flexibility if the timing of exposures changes within the end date of the hedge.

7

**Figure 4**

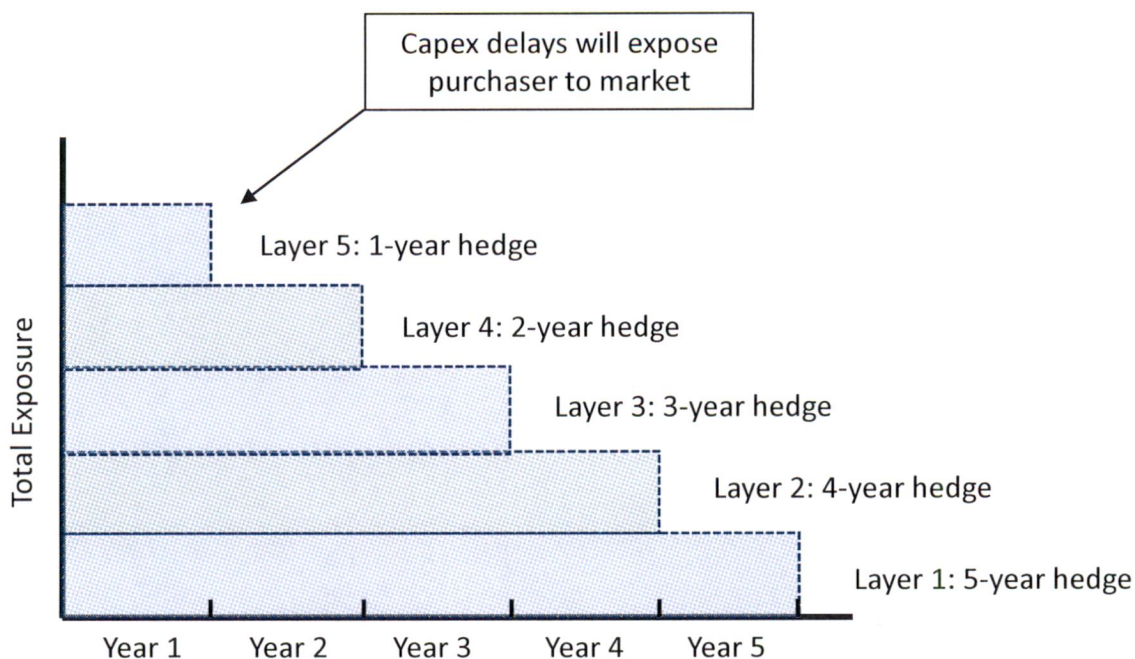


8

9 This structure is easy to administer, and the purchaser simply reduces the hedged amount  
10 as the settlements occur over time. Although this structure could result in a marginally  
11 higher cost than other more targeted structures, it provides significant flexibility while  
12 locking in a U.S. dollar price.

1 Alternatively, in a situation where the timing of currency exposure is generally known,  
2 the purchaser can layer in hedges to best estimate target dates of the contract payments.

3 **Figure 5**



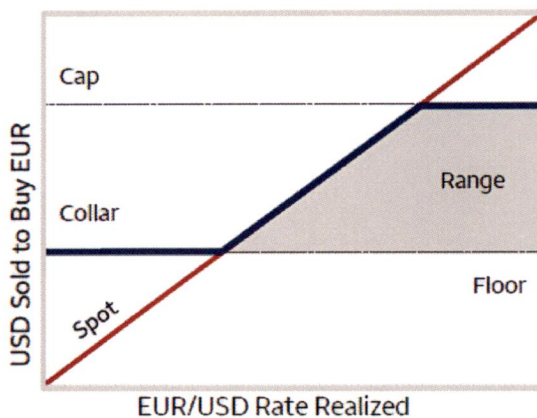
4  
5 This structure is targeted and cost efficient but would not allow much flexibility if timing  
6 of foreign currency exposure changes. Any adjustment to the timing of the hedges could  
7 become administratively burdensome and cost inefficient or expose the purchaser to  
8 market fluctuations.

9 **Q. Other than the FX Forwards, did the Company consider any other hedging**  
10 **alternatives?**

11 A. Yes. Another type of financial hedge is known as a “collar.” A collar establishes a  
12 “worst-case” rate and a “best-case” rate for a fixed time period to support a future foreign  
13 currency transaction. A collar protects the purchaser of the hedge from losses, but also  
14 reduces any upside potential. The structure is comprised of two “Financial Options,” one

1 that is purchased and one that is sold. A Financial Option is the right to buy or sell an  
2 underlying asset – in this case a foreign currency exchange at a known rate (*i.e.*,  
3 purchasing Euro and selling USD), as shown in Figure 6.

4 **Figure 6**



5  
6 A worst-case rate protects the purchaser's exposure from unfavorable market moves (the  
7 cap). A best-case rate defines the maximum potential gains (the floor). The range  
8 between the two rates is set to reflect the purchaser's risk appetite. If the exchange rate is  
9 above the cap rate, the purchaser will exchange currency at the cap rate. If the exchange  
10 rate is below the floor rate, the purchaser will exchange currency at the floor rate. If the  
11 exchange rate is in the range between the two rates, the purchaser will exchange currency  
12 at the current spot market exchange rate. Collars are typically structured to be less costly  
13 upfront, such that the price of the option sold is equal to the option purchased. The cost  
14 is realized through an asymmetric spread around current spot price. In other words, the  
15 difference between the cap and the spot price is higher than the difference between the  
16 floor and the spot price.

1 **Q. Has the Company determined what type of financial hedge is appropriate to**  
2 **mitigate the foreign currency exposure risks to the CVOW Commercial Project?**

3 A. The Company is planning financial hedges of foreign currency exposure via a series of  
4 long-dated FX Forwards to be executed shortly after Commission approval, unless  
5 market conditions dictate otherwise (*i.e.*, the Foreign Currency Risk Mitigation Plan).

6 We believe that FX Forwards will be the most economically beneficial as they will lock  
7 in a USD price for customers and eliminate exposure to movements in foreign currency  
8 exchange rates. Additionally, utilizing a strategy of long-dated hedges will provide  
9 significant flexibility to move the hedges between contracts reducing the risk of any  
10 hedge adjustments in the future that could be costly. Lastly, although providing an  
11 alternative way to hedge currency, collars do not offer full rate protection at a known  
12 exchange rate; exposing customers to the volatility, and the asymmetric nature of the  
13 collar would expose customers to a larger downside risk than upside benefit.

14 **Q. Assuming a FX Forward hedge was used to mitigate foreign currency exposure risk,**  
15 **could you please provide an example of how the hedge would protect against Project**  
16 **cost increases due to movements in the foreign currency exchange rates.**

17 A. Yes. Take a hypothetical where you have entered into a 5-year contract with 100 Euros  
18 due every year from now where your total exposure is 500 Euros. If the exchange rate  
19 today is 1.2 (meaning 1.2 USD equals 1 Euro), this means your exposure is \$600.

20 If you did nothing, and then down the road when it comes time to make your contract  
21 payments the exchange rate is 1.4, this means you owe a total of \$700; so your costs—  
22 though fixed in Euros—increase by \$100 in USD.



1 With hedging, you lock in forward rate of 1.2 with a small premium, or 1.25 for example,  
 2 and the financial institution selling the hedge takes the upside or downside of the  
 3 currency swing. With the hedged rate, your total project cost is now fixed at \$625. So, in  
 4 our earlier scenario where the exchange rate changed to 1.4, you would still pay \$700  
 5 under the contract, but the bank would then pay you \$75 under the hedge. Thus, your  
 6 total output under the contract remains \$600, plus the incremental cost of the hedge for a  
 7 total of \$625 in this example. On the other hand, if the exchange rate goes down to 1.0,  
 8 you would pay \$500 under the contract and pay \$125 to the financial institution. This  
 9 example is also illustrated in my Table 1. Again, your total costs are at \$625.

10 **Table 1**

<b>Illustrative Example</b>						
	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Total</b>
Project Cost (€)	€ 100	€ 100	€ 100	€ 100	€ 100	€ 500
Exchange Rate	1.20	1.20	1.20	1.20	1.20	
Unhedged Project Cost (\$)	\$120	\$120	\$120	\$120	\$120	<b>\$600</b>
Hedge Rate	1.25	1.25	1.25	1.25	1.25	
Hedged Project Cost (\$)	\$125	\$125	\$125	\$125	\$125	<b>\$625</b>
<b>Downside Scenario</b>						
Currency Increase in Future	1.40	1.40	1.40	1.40	1.40	
Unhedged Project Cost (\$)	\$140	\$140	\$140	\$140	\$140	<b>\$700</b>
Hedge Adjustment (w/ Counterparty)	(\$15)	(\$15)	(\$15)	(\$15)	(\$15)	(\$75)
Net Project Cost (\$)	\$125	\$125	\$125	\$125	\$125	<b>\$625</b>
<b>Upside Scenario</b>						
Currency Decrease in Future	1.00	1.00	1.00	1.00	1.00	
Unhedged Project Cost (\$)	\$100	\$100	\$100	\$100	\$100	<b>\$500</b>
Hedge Adjustment (w/ Counterparty)	\$25	\$25	\$25	\$25	\$25	\$125
Net Project Cost (\$)	\$125	\$125	\$125	\$125	\$125	<b>\$625</b>

11  
 12 Actual contract(s) for Project hedges cannot be negotiated until the Company is ready to  
 13 execute such contract since market conditions are constantly changing, and the specific  
 14 terms and structure would be set forth under a deal confirmation.

1 **Q. Why do you believe a FX Forward hedge is likely the best option to mitigate Project**  
2 **foreign currency exposure risks?**

3 A. By entering into a FX Forward hedge on substantially all of the contracts where foreign  
4 currency exposure exists, the Company will be paying to essentially lock in contract  
5 prices so that any future market volatility is borne by the hedging counterparty and not  
6 customers. The Company believes it is reasonable and prudent to manage the currency  
7 exposure in this manner for the benefit of customers, as discussed by Company Witness  
8 Mitchell

9 **Q. What is the Company's projected cost estimate for the financial hedges necessary to**  
10 **mitigate against currency exposure?**

11 A. The Company has included [BEGIN EXTRAORDINARILY SENSITIVE  
12 INFORMATION] [REDACTED] [END EXTRAORDINARILY SENSITIVE  
13 INFORMATION] for the current estimated cost of entering into the necessary hedges  
14 against foreign currency exposure in the major Project agreements detailed by Company  
15 Witnesses Mitchell and Joshua Bennett. This cost estimate was derived based on the  
16 current state of the market and through informational-type quotes from major U.S.  
17 financial institutions. The Company believes this is a reasonable estimate based on the  
18 best available information at this time, though it is subject to change based on future  
19 market conditions. The Company continues to be subject to foreign currency exposure  
20 until the hedges are executed.

21 **Q. Does this conclude your pre-filed direct testimony?**

22 A. Yes, it does.

**BACKGROUND AND QUALIFICATIONS  
OF  
LAUREN V. ADKINS**

Lauren V. Adkins is director–Corporate Finance for Dominion Energy Services, Inc. Ms. Adkins joined the company in May 2011 as a senior accountant within the Technical Accounting group. She was promoted to lead accountant in 2013 and accounting specialist in April 2017. In her various roles within the accounting organization, she was primarily responsible for accounting research related to commodity derivative and hedge accounting transactions and providing guidance to stakeholders across the company. She rotated into the Corporate Finance group as a Treasury Specialist in June 2017. During her time in the Treasury Specialist role, she was responsible for cash forecasting for all the company’s financing entities during which time she implemented a new cash forecasting process. She then stepped into a role that included managing the company’s interest rate risk management programs and assisted in the execution of the company’s capital markets activities. She assumed her current position in September 2021.

Ms. Adkins previously worked as an audit supervisor for Deloitte and Touche in Richmond, Virginia.

Ms. Adkins received her bachelor’s degree in sociology from the University of Virginia and a post-baccalaureate certificate in accounting from Virginia Commonwealth University. She received her CPA license in 2007.





## WITNESS DIRECT TESTIMONY SUMMARY

Witness: Scott Lawton

Title: Environmental Technical Advisor

Summary:

Company Witness Scott Lawton sponsors sections of the Generation Appendix in support of the Coastal Virginia Offshore Wind Commercial Project, referred to as the “CVOW Commercial Project” or “Project” pertaining to environmental issues and concerns related to the Project, as follows:

- Section V.A: This section provides environmental considerations and investigations related to the Project, such as the Company’s environmental and fisheries mitigation plan.
- Section V.C (co-sponsored with Company Witness Dr. Jon M. Berkin): This section discusses environmental concerns and environmental justice issues related to the Project.

A statement of Mr. Lawton’s background and qualifications is attached to his testimony as Appendix A.

**DIRECT TESTIMONY  
OF  
SCOTT LAWTON  
ON BEHALF OF  
VIRGINIA ELECTRIC AND POWER COMPANY  
BEFORE THE  
STATE CORPORATION COMMISSION OF VIRGINIA  
CASE NO. PUR-2021- 00142**

1 **Q. Please state your name, business address and position with Virginia Electric and Power**  
2 **Company (“Dominion Energy Virginia” or the “Company”).**

3 A. My name is Scott Lawton, and I am the Environmental Technical Advisor for the Company. My  
4 business address is 120 Tredegar Street, Richmond, Virginia 23219. A statement of my  
5 qualifications and background is provided as Appendix A.

6 **Q. Please describe your areas of responsibility with the Company.**

7 A. I am responsible for overseeing the environmental permitting of the Company’s offshore wind  
8 facilities. This includes the development of the Coastal Virginia Offshore Wind Commercial  
9 Project (“CVOW Commercial Project”, “CVOW,” or the “Project”) presented in this proceeding.  
10 I also oversaw the environmental permitting of the Company’s 12 megawatt (“MW”) Coastal  
11 Virginia Offshore Wind demonstration project (“CVOW Pilot Project”), which was approved by  
12 the Virginia State Corporation Commission (“Commission”) in Case No. PUR-2018-00121.

13 **Q. What is the purpose of your testimony in this proceeding?**

14 A. The Company seeks to construct, own, and operate offshore wind generation facilities consisting  
15 of 176 14.7 MW Wind Turbine Generators (“WTGs”) located in a federal lease area beginning  
16 approximately 27 statute miles (approximately 24 nautical miles) off the coast of Virginia Beach,  
17 Virginia (“Lease Area”) and their related power export facilities, which will transport the  
18 generated electricity to the Cable Landing Location at the State Military Reservation (“SMR”) in

1 the City of Virginia Beach, Virginia. From there, the generated electricity will utilize onshore  
2 transmission infrastructure (the “Virginia Facilities”) to connect to the electric grid (collectively,  
3 the WTGs, related power export facilities, and the Virginia Facilities are the CVOW Commercial  
4 Project.

5 The CVOW Commercial Project is designed to provide clean, reliable offshore wind energy to  
6 Virginia customers, create the opportunity to displace electricity generated by fossil fuel-  
7 powered plants, and offer substantial economic and environmental benefits to the  
8 Commonwealth of Virginia. This Project represents a viable and needed opportunity for  
9 Virginia to obtain clean renewable energy and realize its economic and environmental goals, and  
10 for the Company to meet its statutory carbon reduction requirements.

11 The purpose of my testimony is to discuss portions of the Generation Appendix that provide the  
12 environmental concerns and issues related to the Project. Specifically, I am sponsoring Section  
13 V.A of the Generation Appendix, which provides, among other things, the Company’s  
14 environmental and fisheries mitigation plan; and co-sponsoring Section V.C of the Generation  
15 Appendix with Company Witness Dr. Jon M. Berkin, which discusses environmental concerns  
16 and environmental justice issues related to the Project.

17 **Q. Does this conclude your pre-filed direct testimony?**

18 **A.** Yes, it does.

**BACKGROUND AND QUALIFICATIONS  
OF  
SCOTT LAWTON**

Scott Lawton is an Environmental Technical Advisor for Dominion Energy Virginia. He has held this role since January 2018. Mr. Lawton has also held various positions at the Company for over 16 years and has been an environmental professional for over 30 years. Prior to his current position, Mr. Lawton served as the Manager - Renewables, Services Support & Data Management from 2016 to 2018, where he provided environmental support for off-shore wind and solar development.



## WITNESS DIRECT TESTIMONY SUMMARY

Witness: John Larson

Title: Director – Public Policy and Economic Development

Summary:

Company Witness John Larson sponsors sections of the Generation Appendix in support of the Coastal Virginia Offshore Wind Commercial Project, referred to as the “CVOW Commercial Project” or “Project” pertaining to the economic development benefits of the Project within the Commonwealth, as follows:

- Section VI.A: This section demonstrates the economic development benefits within the Commonwealth, including capital investments and job creation.
- Section VII.6: This section provides the Company’s Economic Development Plan in response to the State Corporation Commission of Virginia’s (the “Commission”) July 26, 2021 Order (“July 26 Order”).
- Section VII.7: This section provides a response to the Commission’s July 26 Order as it relates to the studies quantifying the economic development benefits of the Project and the potential impact of a backlog in the PJM queue on the economic development portion of the Project.

A statement of Mr. Larson’s background and qualifications is attached to his testimony as Appendix A.

**DIRECT TESTIMONY  
OF  
JOHN LARSON  
ON BEHALF OF  
VIRGINIA ELECTRIC AND POWER COMPANY  
BEFORE THE  
STATE CORPORATION COMMISSION OF VIRGINIA  
CASE NO. PUR-2021- 00142**

1 **Q. Please state your name, business address and position with Virginia Electric and Power**  
2 **Company (“Dominion Energy Virginia” or the “Company”).**

3 A. My name is John Larson, and I am Director – Public Policy and Economic Development for the  
4 Company. My business address is 707 East Main Street, Richmond, Virginia 23219. A  
5 statement of my qualifications and background is provided as Appendix A.

6 **Q. Please describe your areas of responsibility with the Company.**

7 A. I am responsible for oversight of the Company’s tracking and analysis of legislation, as well as  
8 the community engagement and outreach activities in the 16 states in which the Company  
9 operates. I am also responsible for overseeing the Company’s economic, supply chain, and  
10 workforce development strategies and activities in support of the Coastal Virginia Offshore  
11 Wind Commercial Project, referred to as the “CVOW Commercial Project” or “Project,” in order  
12 to achieve the economic impact and hiring objectives outlined in the Virginia Clean Economy  
13 Act.

14 **Q. What is the purpose of your testimony in this proceeding?**

15 A. The Company seeks to construct, own, and operate offshore wind generation facilities consisting  
16 of 176 14.7 megawatt (“MW”) Wind Turbine Generators (“WTGs”) located in a federal lease  
17 area beginning approximately 27 statute miles (approximately 24 nautical miles) off the coast of  
18 Virginia Beach, Virginia (“Lease Area”) and their related power export facilities, which will

1 transport the generated electricity to the Cable Landing Location at the State Military  
2 Reservation (“SMR”) in the City of Virginia Beach, Virginia. From there, the generated  
3 electricity will utilize onshore transmission infrastructure (the “Virginia Facilities”) to connect to  
4 the electric grid (collectively, the WTGs, related power export facilities, and the Virginia  
5 Facilities are the CVOW Commercial Project.

6 The CVOW Commercial Project is designed to provide clean, reliable offshore wind energy to  
7 Virginia customers, create the opportunity to displace electricity generated by fossil fuel-  
8 powered plants, and offer substantial economic and environmental benefits to the  
9 Commonwealth of Virginia. This Project represents a viable and needed opportunity for  
10 Virginia to obtain clean renewable energy and realize its economic and environmental goals, and  
11 for the Company to meet its statutory carbon reduction requirements.

12 The purpose of my testimony is to discuss portions of the Generation Appendix pertaining to the  
13 economic development benefits and job creation opportunities of the Project within the  
14 Commonwealth. Specifically, I am sponsoring Sections VI.A, VII.6, and VII.7 of the Generation  
15 Appendix, which provides and references the Company’s Economic Development Plan.

16 **Q. Does this conclude your pre-filed direct testimony?**

17 A. Yes, it does.



**BACKGROUND AND QUALIFICATIONS  
OF  
JOHN LARSON**

John Larson is Director - Public Policy and Economic Development for Dominion Energy Virginia. He has held this role since February 2020. Mr. Larson has held various positions at the Company for over 25 years. Prior to his current position, Mr. Larson served as the Director – Benefits, Compensation, Labor and Employee Relations from 2016 to 2020. He has also served as Director – Alternative Energy Solutions during the early development and permitting phases of the CVOW Pilot Project, Director – Electric Transmission Construction, Director - Generation Business Development, and Supervisor of Engineering and Construction at Evantage, an energy services affiliate of the Company.

Mr. Larson holds a Bachelor of Science in Chemical Engineering from North Carolina State University.