

**Virginia State Corporation Commission
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220920119

Case Number (if already assigned)	PUR-2021-00142
Case Name (if known)	Application of Va. Elec. & Power Co. 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 of Virginia
Document Type	EXBR
Document Description Summary	OBJECTIONS OF THE SIERRA CLUB TO THE PETITION FOR LIMITED RECONSIDERATION OF VIRGINIA ELECTRIC AND POWER COMPANY
Total Number of Pages	13
Submission ID	25641
eFiling Date Stamp	9/20/2022 4:39:39PM



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220920119

September 20, 2022

VIA ELECTRONIC FILING

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RE: Application of Virginia Electric and Power Company for approval and certification of the Coastal Virginia Offshore Wind Commercial Project and Rider Offshore Wind

Case No. PUR-2021-00142

Dear Mr. Logan:

Enclosed for filing in the above-captioned proceeding are the **Objections of the Sierra Club to the Petition for Limited Reconsideration of Virginia Electric and Power Company**, which is being filed in **public version only**. If you should have any questions regarding this filing, please contact me at (434) 924-4776, or via email at cjaffe@law.virginia.edu

Regards,



Cale Jaffe
Counsel of Record, Sierra Club

cc: Parties on Service List
Commission Staff

COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION

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)

Case No. PUR-2021-00142

OBJECTIONS OF THE SIERRA CLUB
TO THE PETITION FOR LIMITED RECONSIDERATION
OF VIRGINIA ELECTRIC AND POWER COMPANY

I. Introduction.

Pursuant to the Commission’s Orders of August 24, 2022 and September 13, 2022, the Sierra Club hereby files the following Objections to the Petition for Limited Reconsideration of Virginia Electric and Power Company (the “Company”). The Sierra Club supports the inclusion of a performance guarantee as part of the Commission’s Final Order in this docket so long as that requirement does not render the Coastal Virginia Offshore Wind (“CVOW”) Project economically infeasible to complete. An overly burdensome performance guarantee – *i.e.*, one that goes beyond assuring “the reasonableness and prudence of any such costs,” Va. Code § 56-585.1:11 D – risks conflicting with the declaration in the Virginia Clean Economy Act of 2020 that development of the CVOW Project “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.” Va. Code § 56-585.1:11 B.

Further, the Sierra Club raises concerns about the Commission’s asymmetric treatment of zero-carbon renewable resources like the CVOW Project and fossil fuel-powered generation like

the Virginia City Hybrid Energy Center (“VCHEC”). All generation sources have uncertainties that can impact capacity factor. Indeed, the Company initially projected that VCHEC would achieve a 90% capacity factor. *See* Rebuttal Testimony of James K. Martin, *Application of Va. Elec. & Power Co. for a certificate of public convenience and necessity to construct and operate an electric generation facility in Wise County, Virginia*, PUE-2007-00066, at 3, 6-7 (Feb. 7, 2008). Yet in practice, “VCHEC ran at only 19.86% capacity during the first eight months” of calendar year 2020, and even at “its peak performance in 2013 and 2014, it operated at slightly more than 65% of its capacity...”¹ According to one report, “Virginia Power estimates its annual capacity factor will average less than 7.7% over the next 10 years, meaning its output will be almost insignificant.”² The lesson from VCHEC is clear; uncertainties surrounding *any* new generation resource abound. Given the need to account for a Social Cost of Carbon, *see* Va. Code § 56-585.1 A 6, these uncertainties are especially acute for greenhouse gas-emitting generation.³ The imposition of a performance guarantee for the CVOW Project, therefore, must be read as precedent to support mandating similar obligations on the Company’s other generation resources and future proposals (e.g., coal, fossil gas, carbon capture and sequestration projects, small modular nuclear reactors, the proposed North Anna Unit 3, hydrogen plants, etc.).

II. The Commission Has Authority to Set a Reasonable Performance Guarantee.

By using the Company’s projected capacity factor to set some form of performance guarantee, the Commission was acting within its longstanding authority to ensure that customers

¹ Institute for Energy Economics and Financial Analysis, *Virginia Coal Plant’s Future Isn’t Bright: Preparation for Transition Should Commence Now* (Dec. 16, 2020), at 1, <https://ieefa.org/wp-content/uploads/2020/12/VCHECs-Future-Is-Not-Bright-Transition-Preparation-Should-Commence-Now-December-2020.pdf>.

² *Id.*

³ Justin Gundlach & Iliana Paul, NYU School of Law, Institute for Policy Integrity & United States Climate Alliance, *The Social Cost of Greenhouse Gases: A Guide for State Officials* (July 2022), https://policyintegrity.org/files/publications/The_Social_Cost_of_Greenhouse_Gases-A_Guide_for_State_Officials_vF.pdf.

only pay for costs that are reasonably and prudently incurred. *See* Va. Code § 56-585.1 D (explaining that the Commission “may determine ... the reasonableness or prudence of any cost incurred or projected to be incurred ... [and] shall consider the extent to which such renewable resources ... further the objectives of the Commonwealth Energy Policy...”); *see also* Va. Code § 56-585.1:11 C.1 (“The Commission shall disallow costs, or any portion thereof, only if they are otherwise unreasonably and imprudently incurred.”). Indeed, the performance guarantee in the Commission’s Final Order mimics the form of Term 6 of the Proposed Stipulation.⁴ The most material distinction is on the stringency of the obligation. *Cf.* Final Order at 16 (“[C]ustomers shall be held harmless for any shortfall in energy production below an annual net capacity factor of 42%, as measured on a three-year rolling average”) *and* Exhibit 3, Proposed Stipulation and Recommendation at 3-4 (“To the extent ... the Project’s net capacity factor is less than 37% on a three-year rolling average basis, the Company will provide a detailed explanation of the factors contributing to any deficiency....”).

The Company correctly notes that § 56-585.1:11 of the Virginia Code constrains the Commission’s reasonableness and prudence review for offshore wind projects. *See* Petition for Limited Reconsideration, *Application of Va. Elec. & Power Co. for approval and certification of the Coastal Virginia Offshore Wind Commercial Project and Rider Offshore Wind*, PUR-2012-

⁴ The Company asserts that “any performance standard...should be limited to the nature described in Term 6 of the previously filed Stipulation and Recommendation among the Company, Commission Staff, the Sierra Club, and the Nansemond Indian Nation.” *See* Petition for Limited Reconsideration, at 4. The Sierra Club, however, did not take an independent stand in support of Term 6. Rather, the Sierra Club explained in its Post-Hearing Brief that it did not necessarily agree with the treatment of each item listed in the stipulation but concluded that resolution of all issues addressed by the stipulation, taken as a whole, were in the public interest. *See* Post-Hearing Brief of the Sierra Club, at 2 (citing Exhibit 3, Stipulation, at 17) (filed June 17, 2022). Critical to the Sierra Club’s support for the stipulation was Term 11, which outlined metrics, targets, and accountability measures related to Diversity, Equity, and Inclusion (“DEI”). Term 11 also would require the formation of an external advisory committee on DEI to be premised on recommendations from the Sierra Club. *See* Exhibit 32, Testimony of Mark Little, PhD.

00142 (Aug. 22, 2022) at 12. In many proceedings, the Commission’s authority “regarding the reasonableness or prudence of” any cost to be incurred pursuant to § 56-585.1 A 6 “shall be consistent with the Commission’s authority to determine the reasonableness or prudence of costs in proceedings pursuant to the provisions of Chapter 10 (§ 56-232 et seq.)” *See* Va. Code § 56-585.1 D. But in offshore wind proceedings the Commission’s role is more limited. A reasonableness and prudence analysis of the CVOW Project is constrained by an obligation to consider three specific criteria:

- 1) whether “the utility has complied with the competitive solicitation and procurement requirements...”;
- 2) whether “the project’s projected total levelized cost of energy” would exceed “1.4 times the comparable cost ... of a conventional simple cycle combustion turbine generating facility...: and
- 3) whether “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.”

See Va. Code § 56-585.1:11 C.1.

The second of these statutory factors – the projected Levelized Cost of Energy (“LCOE”) – is inextricably linked with capacity factor and the performance guarantee. The U.S. Department of Energy has explained that LCOE is typically “given in the units of currency per kilowatt-hour,” and thus calculating an LCOE is impossible without first inputting a capacity factor.⁵ A performance guarantee is therefore helpful in articulating the point at which the LCOE becomes unreasonable and imprudent. The Commission was acting within its explicit authority to determine

⁵ *See* National Renewable Energy Laboratory, *Energy Analysis: Simple Levelized Cost of Energy (LCOE) Calculator Documentation*, <https://www.nrel.gov/analysis/tech-lcoe-documentation.html> (last visited Sept. 13, 2022).

when “projected total levelized cost of energy... [might] exceed 1.4 times the comparable cost, on an unweighted average basis, of a conventional simple cycle combustion turbine...” *See* Va. Code § 56-585.1:11 C.1.(i).

This reading of the Code is augmented by the very next sentence in the statute, which includes a general grant of authority: “The Commission shall disallow costs, or any portion thereof, only if they are otherwise unreasonably and imprudently incurred.” *See* Va. Code § 56-585.1:11 C.1. It is axiomatic in Virginia that “[t]he rules of statutory interpretation argue against reading any legislative enactment in a manner that will make a portion of it useless, repetitious, or absurd.” *Lynchburg Division of Social Services v. Cook*, 276 Va. 465, 483, 666 S.E.2d 361, 370 (Va. 2008) (internal quotation marks and citations omitted). Thus, this additional grant authority in Va. Code § 56-585.1:11 does more than merely reiterate the three factors listed earlier in the same provision. The Commission’s power to disallow costs “unreasonably and imprudently incurred” must have some independent meaning.

In short, imposition of a performance guarantee is consistent with the Commission’s historic power and duty to regulate “the rates, charges, and services ... [of] electric companies.” *See* VA. CONST. art. XI, § 2. At the same time, the Company alleges that the performance guarantee included in the Commission’s Final Order of August 5, 2022 would render the CVOW Project impossible to complete. *See* Petition for Limited Consideration, at 3 (“As ordered, it will prevent the Project from moving forward, and the Company will be forced to terminate all development and construction activities.”). If this allegation is supported by evidence in the record, then the performance guarantee as initially conceived would place the Commission’s Final Order in conflict with other statutory mandates.

In particular, the Commission is directed to find the construction or purchase of offshore wind generation facilities to be “in the public interest” in order to “meet the Commonwealth’s clean energy goals” as established in the Virginia Clean Economy Act and the Clean Energy and Community Flood Preparedness Act. *See* Va. Code § 56-585.1:11 B & C; 2020 Va. Acts of Assembly, Chapters 1193, 1194, 1219 & 1280. A performance guarantee cannot be unduly onerous or burdensome so as to frustrate other statutory prescriptions. Rather, it must dovetail with the Company’s obligation to “retire all other electric generating units located in the Commonwealth that emit carbon as a by-product of combusting fuel to generate electricity” by the end of 2045, and its obligation to meet the Renewable Portfolio Standard requirements (up to 100% by 2045) found in Va. Code § 56-585.5 C. Accordingly, a performance guarantee needs to account for force majeure events, including acts of war or terror. It also needs to account for the natural variation in energy production over time: through a true-up process, a longer rolling average period, use of a 37% capacity factor as included in Term 6 of Exhibit 3, or other means.

III. The Imposition of a Performance Guarantee on the CVOW Project Must be Read as Precedent to Support Similar Requirements for Other Generation Facilities and Future Proposals.

Finally, the imposition of a performance guarantee on the CVOW Project must be read as precedent to support imposing analogous requirements for other generation facilities and future proposals, which have not faced similar consumer protection-based performance requirements in the Commission’s recent history. *See, e.g.,* Final Order, *Application of Va. Elec. & Power Co. for a certificate of public convenience and necessity to construct and operate an electric generation facility in Wise County, Virginia*, PUE-2007-00066 (Mar. 31, 2008) (approving construction of VCHEC without imposing any performance guarantee related to future capacity factor); Final Order, *Application of Va. Elec. & Power Co. for a certificate to construct and operate a generating*

facility ... *Bear Garden Generating Station*, No. PUE-2008-00014 (Mar. 27, 2009) (approving Bear Garden gas facility but making no mention of a performance guarantee); Final Order, *Application of Va. Elec. & Power Co. for approval and certification of the proposed Brunswick County Power Station*, No. PUE-2012-00128, at 10 (Aug. 2, 2013) (approving Brunswick County gas-fired facility and acknowledging performance guarantees related to construction in the Company's contracts but not imposing a performance guarantee related to the plant's future capacity factor); Final Order, *Application of Va. Elec. & Power Co. for approval and certification of the proposed Greenville County Power Station*, No. PUE-2015-00075, at 10 (Mar. 29, 2016) (approving Greenville County gas-fired facility and again acknowledging third-party contractual performance guarantees related to the construction phase of the plant, while not imposing guarantees for the plant's projected capacity factor once in operation).

The Commission has, however, imposed obligations related to a generating facility's future operating performance in multiple renewable energy dockets: for the CVOW Project at issue here and for the US-3 and US-4 solar facilities. See Order Granting Certificates, *Petition of Va. Elec. & Power Co. for approval and certification of the proposed US-3 Solar Projects*, PUR-2018-00101, at 15-16 (Jan. 24, 2019) ("the Company proposed a performance guarantee that would hold customers harmless for performance below a collective 25% capacity factor ... the Commission finds that a performance guarantee is appropriate and necessary"); Order Granting Certificate, *Petition of Va. Elec. & Power Co. for approval and certification of the proposed US-4 Solar Projects*, PUR-2019-00105, at 12 (Jan. 22, 2020) (imposing a similar performance guarantee in the US-4 solar docket). This asymmetric treatment between fossil-fuel generation and renewable energy cannot be justified.

Indeed, the need for a performance guarantee on fossil generation is arguably stronger than it is for renewables given the Commission's statutory duty to consider the Social Cost of Carbon when approving facilities. *See* Va. Code § 56-585.1 A 6 ("In any application to construct a new generating facility...the Commission shall consider the social cost of carbon..."). And uncertainties have already impacted generator performance for fossil generation in Virginia, as with the erratic operation of the Virginia City Hybrid Energy Center.

The Commission granted VCHEC a certificate of public convenience and necessity in 2008, following the Company's testimony that VCHEC would operate at an astounding 90% capacity factor. *See* Rebuttal Testimony of James K. Martin, *Application of Va. Elec. & Power Co. for a certificate of public convenience and necessity to construct and operate an electric generation facility in Wise County, Virginia*, PUE-2007-00066, at 3 (Feb. 7, 2008) ("By being able to consume these fuels, the Project will operate at a lower, more predictable cost and thus will achieve a 90% capacity factor."). This projected capacity factor was questioned at that time by Consumer Counsel witness Scott Norwood, who posited, "It is unreasonable to rely upon such an unsupported and optimistic performance assumption as justification for an investment of this magnitude." *See* Direct Testimony of Scott Norwood, *Application of Va. Elec. & Power Co. for a certificate of public convenience and necessity to construct and operate an electric generation facility in Wise County, Virginia*, PUE-2007-00066, at 20 (Feb. 6, 2008).

The 90% capacity factor proved to be a vast overestimation, with VCHEC's highest, sustained capacity factor reaching only 65% in 2013 and 2014.⁶ That number has only declined in recent years, with "Virginia Power estimat[ing] its annual capacity factor will average less than

⁶ *See* Institute for Energy Economics and Financial Analysis, *Virginia Coal Plant's Future Isn't Bright: Preparation for Transition Should Commence Now* (Dec. 16, 2020), at 1, <https://ieefa.org/wp-content/uploads/2020/12/VCHecs-Future-Is-Not-Bright-Transition-Preparation-Should-Commence-Now-December-2020.pdf>.

7.7% over the next 10 years, meaning its output will be almost insignificant.” *Id.* Because no performance guarantee was imposed, the average residential customer is now “subsidiz[ing] the plant” at a cost of approximately \$50 per year. *Id.* at 4. As Sierra Club witness Rachel Wilson testified in the Company’s 2021 rate adjustment hearing for VCHEC:

The Company’s own analysis shows that VCHEC, if it continues to operate, will continue to lose money...

Table 1. Ten-year cash flow results (NPV \$Million)

Unit	2021 Plan A	2021 Plan B	Low Capacity Price	High Capacity Price
VCHEC	(\$357)	(\$381)	(\$483)	(\$347)

See Direct Testimony of Rachel Wilson, *Application of Va. Elec. & Power Co. for revision of rate adjustment clause: Rider S, Virginia City Hybrid Energy Center*, PUR-2021-00114, at 8 (Nov. 24, 2021). As the example with VCHEC demonstrates, the imposition of a performance guarantee for the CVOW Project should not be justified by perceived differences in the level of risk associated with offshore wind technology versus coal. Wind technology is well-established both nationally and globally,⁷ and there are significant risks (e.g., fuel costs, Social Cost of Carbon analyses, declining economic dispatch) associated with fossil generation like VCHEC. The Commission should therefore include performance guarantees on any future proposals that the Company may

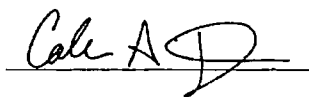
⁷ The first large utility-scale wind farms were constructed in California in the 1980. See U.S. Department of Energy, Wind Energy Technologies Office, *History of U.S. Wind Energy*, <https://www.energy.gov/eere/wind/history-us-wind-energy> (last updated 2021). The first commercial wind farm in Europe was established in Greece in 1982. See Brendan Coffey, *High Wind: GE's First Greek Wind Farm Stretches From Sea To Sky*, General Electric, <https://www.ge.com/news/reports/high-wind-ges-first-greek-wind-farm-stretches-sea-sky> (May 17, 2019). The Department of Energy calculates more than 40,000 megawatts of offshore wind capacity “in various stages of development” in the United States, while McKinsey estimates 40 gigawatts of offshore wind capacity already installed and in-service worldwide. See Office of Energy Efficiency and Renewable Energy, *Offshore Wind Market Report: 2022 Edition*, <https://www.energy.gov/eere/wind/articles/offshore-wind-market-report-2022-edition> (Aug. 16, 2022); McKinsey & Co., *How to Succeed in the Expanding Global Offshore Wind Market*, <https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/how-to-succeed-in-the-expanding-global-offshore-wind-market> (Apr. 20, 2022).

bring forward. These proposals might include carbon capture and sequestration projects, small modular nuclear reactors, the proposed North Anna Unit 3, and hydrogen plants, to name a few.

IV. Conclusion.

The Sierra Club supports the inclusion of a performance guarantee so long as it does not undermine development of the CVOW Project as “in the public interest.” Va. Code § 56-585.1:11 B. Concerning the asymmetric treatment of the CVOW Project and previously approved fossil generation, the Sierra Club directs the Commission’s attention to VCHEC, which the Company initially anticipated would operate with a capacity factor of 90% and is now projected to operate at less than 10% for the remainder of the decade. VCHEC’s under-performance supports a finding that imposition of a performance guarantee for the CVOW Project should be read as precedent to adopt similar obligations on other generation resources and future proposals.

Respectfully submitted,



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DATED: September 20, 2022

⁸ Kate O. Granruth, University of Virginia School of Law Class of 2024 and a student in the Environmental Law and Community Engagement Clinic, contributed substantially to the research, writing, and production of this filing.

CERTIFICATE OF SERVICE

I hereby certify that the following have been served with a true and accurate copy of the **Objections of the Sierra Club to the Petition for Limited Reconsideration of Virginia Electric and Power Company** by electronic mail only:

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