COMMONWEALTH OF VIRGINIA

STATE CORPORATION COMMISSION

AT RICHMOND, JANUARY 24, 2019

PETITION OF

VIRGINIA ELECTRIC AND POWER COMPANY

CASE NO. PUR-2018-00101

For approval and certification of the proposed US-3 Solar Projects pursuant to §§ 56-580 D and 56-46.1 of the Code of Virginia, and for approval of a rate adjustment clause, designated Rider US-3, under § 56-585.1 A 6 of the Code of Virginia

ORDER GRANTING CERTIFICATES

On July 24, 2018, Virginia Electric and Power Company ("Dominion" or "Company") filed with the State Corporation Commission ("Commission") a petition ("Petition") for approval and certificates of public convenience and necessity ("CPCNs") to construct and operate two utility-scale solar photovoltaic generating facilities: (i) the Colonial Trail West Solar Facility, an approximately 142 megawatt ("MW") (nominal alternating current ("AC")) facility located in Surry County; and (ii) the Spring Grove 1 Solar Facility, an approximately 98 MW AC facility located in Surry County (collectively, "US-3 Solar Projects" or "Projects"). The Company requests approval of and a CPCN for each of the US-3 Solar Projects pursuant to Code §§ 56-46.1 and 56-580 D and the Filing Requirements in Support of Applications for Authority to Construct and Operate an Electric Generating Facility.[1] Through its Petition, the Company also requested approval of a rate adjustment clause ("RAC"), designated Rider US-3, pursuant to Code § 56-585.1 A 6 ("Subsection A 6") and the Rules Governing Utility Rate Applications and

[1] 20 VAC 5-302-10 *et seq.*

Annual Informational Filings.[2] Dominion filed a Motion for Entry of a Protective Order and Additional Protective Treatment, as well as a proposed Protective Order with its Petition.

On July 26, 2018, the Commission issued an Order for Notice and Hearing ("Procedural Order") that, among other things: docketed the Petition; required the Company to publish notice of the Petition; gave interested persons the opportunity to comment on, or participate in, the proceeding; scheduled separate public hearings for the purpose of receiving testimony and evidence on the Company's request for CPCNs and approval of Rider US-3; and directed the Commission Staff ("Staff") to investigate the Petition and file testimony and exhibits containing its findings and recommendations. Maryland DC Virginia Solar Energy Industries Association ("MDV-SEIA"), Mid-Atlantic Renewable Energy Coalition ("MAREC"), Appalachian Voices ("Environmental Respondents"), the Board of Supervisors of Culpeper County, Virginia ("County"), Appalachian Power Company, and the Office of the Attorney General, Division of Consumer Counsel ("Consumer Counsel") filed notices of participation.

In the Procedural Order, the Commission noted that Staff had requested the Department of Environmental Quality ("DEQ") to coordinate an environmental review of the proposed Projects. The DEQ filed a report ("DEQ Report") on the proposed Projects on October 1, 2018. The DEQ Report summarizes the proposed Projects' potential impacts, makes recommendations for minimizing those impacts, and outlines the Company's responsibilities for compliance with certain legal requirements governing environmental protection.

The DEQ Report contains the following recommendations:

- Take all reasonable precautions to limit emissions of oxides of nitrogen and volatile organic compounds, principally by controlling or limiting the burning of fossil fuels;

[2] 20 VAC 5-201-10 *et seq.*

- Reduce solid waste at the source, reuse it and recycle it to the maximum extent practicable, and follow DEQ's recommendations to manage waste, as applicable;

- Develop an invasive species management plan and the planting of native pollinator plants in coordination with the Department of Conservation and Recreation ("DCR");

- Coordinate with DCR to minimize core fragmentation to preserve the natural patterns and connectivity of habitats;

- Coordinate with DCR for updates to the Biotics Data System database (if the scope of the project changes or six months passes before the project is implemented);

- Coordinate with the Department of Game and Inland Fisheries regarding its project-specific recommendations for the protection of wildlife resources as appropriate, addressing, but not limited to, enhanced native vegetation, plant pollinator species, invasive species control, tree removal, bald eagle nests, wildlife travel corridors, and monitoring for lake and thermal Island effects; and

- Follow the principles and practices of pollution prevention to the extent practicable, and limit the use of pesticides and herbicides to the extent practicable.[3]

The Commission convened an evidentiary hearing regarding the Company's request for CPCNs on December 18, 2018. The Company, MDV-SEIA, MAREC, Environmental Respondents, Consumer Counsel, and Staff participated in the hearing. At the conclusion of the hearing, the Commission heard closing argument from counsel. On January 10, 2019, Dominion and Consumer Counsel filed legal briefs as permitted by the Commission.

NOW THE COMMISSION, having considered this matter, is of the opinion and finds as follows:

[3] Ex. 17 (DEQ Report) at 5.

Code of Virginia

Code § 56-580 D provides in part:

> The Commission shall permit the construction and operation of electrical generating facilities in Virginia upon a finding that such generating facility and associated facilities (i) will have no material adverse effect upon reliability of electric service provided by any regulated public utility, (ii) are required by the public convenience and necessity, if a petition for such permit is filed after July 1, 2007, and if they are to be constructed and operated by any regulated utility whose rates are regulated pursuant to § 56-585.1, and (iii) are not otherwise contrary to the public interest.

Further, regarding generating facilities, Code § 56-580 D directs that "the Commission shall give consideration to the effect of the facility and associated facilities on the environment and establish such conditions as may be desirable or necessary to minimize adverse environmental impact as provided in § 56-46.1 . . . ."

Code § 56-46.1 A provides in part:

> Whenever the Commission is required to approve the construction of any electrical utility facility, it shall give consideration to the effect of that facility on the environment and establish such conditions as may be desirable or necessary to minimize adverse environmental impact. . . . In every proceeding under this subsection, the Commission shall receive and give consideration to all reports that relate to the proposed facility by state agencies concerned with environmental protection; and if requested by any county or municipality in which the facility is proposed to be built, to local comprehensive plans that have been adopted pursuant to Article 3 (§ 15.2-2223 *et seq.*) of Chapter 22 of Title 15.2.

Code § 56-46.1 A also provides:

> In order to avoid duplication of governmental activities, any valid permit or approval required for an electric generating plant and associated facilities issued or granted by a federal, state or local governmental entity charged by law with responsibility for issuing permits or approvals regulating environmental impact and mitigation of adverse environmental impact or for other specific public interest issues such as building codes, transportation plans, and public safety, whether such permit or approval is granted prior

> to or after the Commission's decision, shall be deemed to satisfy the requirements of this section with respect to all matters that (i) are governed by the permit or approval or (ii) are within the authority of, and were considered by, the governmental entity in issuing such permit or approval, and the Commission shall impose no additional conditions with respect to such matters.

Code § 56-580 D contains language that is nearly identical to the language set forth in Code § 56-46.1 A.

The Code also directs the Commission to consider the effect of a proposed facility on economic development in Virginia. Code § 56-46.1 A states in part:

> Additionally, the Commission (a) shall consider the effect of the proposed facility on economic development within the Commonwealth, including but not limited to furtherance of the economic and job creation objectives of the Commonwealth Energy Policy set forth in §§ 67-101 and 67-102, and (b) shall consider any improvements in service reliability that may result from the construction of such facility.

Similarly, Code § 56-596 A provides that "[i]n all relevant proceedings pursuant to [the Virginia Electric Utility Regulation] Act, the Commission shall take into consideration, among other things, the goal of economic development in the Commonwealth."

Code § 56.585.1 A 6 provides in part that (emphasis added):

> The construction or purchase by a utility of one or more generation facilities with at least one megawatt of generating capacity, and with an aggregate rated capacity that does not exceed 5,000 megawatts, including rooftop solar installations with a capacity of not less than 50 kilowatts, and with an aggregate capacity of 50 megawatts, that use energy derived from sunlight or from wind and are located in the Commonwealth or off the Commonwealth's Atlantic shoreline, regardless of whether any such facilities are located within or without the utility's service territory, *is in the public interest*, and in determining whether to approve such facility, the Commission shall liberally construe the provisions of this title.

Code § 56.585.1:4 A states that (emphasis added):

> Prior to January 1, 2024, (i) the construction or purchase by a public utility of one or more solar or wind generation facilities located in the Commonwealth or off the Commonwealth's Atlantic shoreline, each having a rated capacity of at least one megawatt and having in the aggregate a rated capacity that does not exceed 5,000 megawatts, or (ii) the purchase by a public utility of energy, capacity, and environmental attributes from solar facilities described in clause (i) owned by persons other than a public utility *is in the public interest*, and the Commission shall so find if required to make a finding regarding whether such construction or purchase is in the public interest.

Code § 56.585.1:4 D states that:

> Twenty-five percent of the solar generation capacity placed in service on or after July 1, 2018, located in the Commonwealth, and found to be in the public interest pursuant to subsection A or B shall be from the purchase by a public utility of energy, capacity, and environmental attributes from solar facilities owned by persons other than a public utility. The remainder shall be construction or purchase by a public utility of one or more solar generation facilities located in the Commonwealth. All of the solar generation capacity located in the Commonwealth and found to be in the public interest pursuant to subsection A or B shall be subject to competitive procurement, provided that a public utility may select solar generation capacity without regard to whether such selection satisfies price criteria if the selection of the solar generating capacity materially advances non-price criteria, including favoring geographic distribution of generating capacity, areas of higher employment, or regional economic development, if such non-price solar generating capacity selected does not exceed 25 percent of the utility's solar generating capacity.

Finally, Code § 56.585.1 D states that (emphasis added):

> The Commission may determine, during any proceeding authorized or required by this section, the *reasonableness or prudence of any cost incurred or projected to be incurred*, by a utility in connection with the subject of the proceeding. A determination of the Commission regarding the reasonableness or prudence of any such cost 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.). In determining the reasonableness or

> prudence of a utility providing energy and capacity to its customers from renewable energy resources, the Commission shall consider the extent to which such renewable energy resources, whether utility-owned or by contract, further the objectives of the Commonwealth Energy Policy set forth in §§ 67-101 and 67-102, and shall also consider whether the costs of such resources is likely to result in unreasonable increases in rates paid by customers.

Reliability

Code § 56-580 D sets forth three criteria for granting a CPCN. The first criterion is "no material adverse effect upon reliability of electric service provided by any regulated public utility." No party asserts that the Projects will have a material adverse effect upon reliability.[4]

Public Interest

The third criterion in Code § 56-580 D is "not otherwise contrary to the public interest." As quoted above, the General Assembly has statutorily pre-determined that this type of solar project is "in the public interest."[5]

As also quoted above, the General Assembly's public interest declaration is further informed by the following statutory directive: "Twenty-five percent of the solar generation capacity placed in service on or after July 1, 2018, located in the Commonwealth, and found to be in the public interest pursuant to subsection A or B shall be from the purchase by a public utility . . . from solar facilities owned by persons other than a public utility. "[6] Environmental Respondents ask the Commission to establish "guidelines about what that provision means."[7]

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[4] *See, e.g.,* Ex. 2 (Petition) at 9; Ex. 12 (White) at 32; Tr. 458.

[5] *See, e.g.,* Code §§ 56-585.1 A 6 and 56-585.1:4 A.

[6] Code § 56.585.1:4 D.

[7] Tr. 463.

For example, is 25% a floor, a ceiling, or an exact requirement?[8] How often is it calculated?[9] What is 25% *a fraction of*? Code § 56.585.1:4 A refers to 5,000 megawatts of *both* solar and wind resources "located in the Commonwealth or off the Commonwealth's Atlantic shoreline," which would imply that the 5,000 MW total is a statewide aggregate (including offshore) total of both solar and wind. Nor is the term "public utility" defined, so whether that includes electric cooperatives or municipal utilities is not readily apparent.[10] Nor is it apparent whether the 25% criterion is applicable to *each* public utility separately.[11] There is also a question of how this entire section is supposed to be enforced.

While Environmental Respondents asked for "clarity" on what this Code section means,[12] the relief of clarity will have to come later or from other sources. Although the statute is ambiguous in many respects, we agree with Dominion, Staff, and Consumer Counsel that these questions have no dispositive effect in the instant proceeding and, thus, do not need to be decided herein.[13] Based on the current record, we find that there is no legal basis to remove the

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[8] Dominion and MAREC/MDV-SEIA assert that 25% is an exact (or close to exact) requirement. *See, e.g.,* Dominion's Jan. 10, 2019 Brief at 6 (the statute "set a precise amount at 25%"); Tr. 450 (MAREC/MDV-SEIA) (the 25% does not have to be "exact," but "has to be very close."). Conversely, Consumer Counsel, Environmental Respondents, and Staff assert that 25% is a floor, and that the General Assembly knows how to set a ceiling when it wants to but did not include language such as "*no more than*" 25%. *See, e.g.,* Consumer Counsel's Jan. 10, 2019 Brief at 6; Tr. 460 (Environmental Respondents); Tr. 469 (Staff).

[9] Tr. 450, 463.

[10] Tr. 470-471, 480

[11] Tr. 463, 469.

[12] Tr. 463.

[13] *See, e.g.,* Tr. 480 (Dominion); Tr. 471 (Staff); Consumer Counsel's Jan. 10, 2019 Brief at 7.

Company's proposed self-build Projects from the General Assembly's "public interest" declaration.[14]

Public Convenience and Necessity

That leaves the second enumerated criterion in Code § 56-580 D: "required by the public convenience and necessity." We agree with Staff that this term is not defined in the Code but through the long history of this Commission, it has contained a prudency component that includes, among other criteria, both an evaluation of the need for the project as well as the reasonableness of the cost.[15]

Further, Dominion has already requested, as part of this Petition, a RAC under Subsection A 6 to recover the costs of these Projects. While we have bifurcated this proceeding due to the separate statutory deadlines governing the CPCNs (six months) and a RAC under Subsection A 6 (nine months), under Code § 56-585.1 D the Commission may determine the reasonableness and prudence of the costs of any Subsection A 6 RAC project, which this one is.

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[14] Tr. 470.

[15] *See, e.g.,* Tr. 472-473. *See also Application of Virginia Electric and Power Company, For approval and certification of electric transmission facilities: Idylwood-Tysons 230 kV single circuit underground transmission line, Tysons Substation rebuild and related transmission facilities*, Case No. PUR-2017-00143, Doc. Con. Cen. No. 189919860 (Sep. 5, 2018) (finding transmission route optimal because, among other things, it was the least costly alternative); *Application of Virginia Electric and Power Company, For approval of conversion and operation of Bremo Power Station*, Case No. PUR-2012-00101, 2013 S.C.C. Ann. Rept. 289 (Sep. 10, 2013) (evaluating cost-effectiveness of fuel conversion compared to third-party alternatives); *Application of Virginia Electric and Power Company, For approval and certification of the proposed Brunswick County Power Station and related transmission facilities pursuant to §§ 56-580 D, 56-265.2, and 56-46.1 of the Code of Virginia, and for approval of a rate adjustment clause, designated Rider BW, pursuant to § 56-585.1 A 6 of the Code of Virginia*, Case No. PUR-2013-00128, 2013 S.C.C. Ann. Rept. 302 (Aug. 2, 2013) (finding that the utility established a need for the additional capacity and energy that would be provided by the proposed generation facility); *Application of Virginia Electric and Power Company and Dominion Wholesale, Inc., For approval and certification of electric generating facilities under § 56-580 D and § 56-46.1 of the Code of Virginia and for approval of affiliate transactions under Chapter 4, Title 56 of the Code of Virginia*, Case No. PUR-2007-00032, 2007 S.C.C. Ann. Rept. 435 (Aug. 24, 2007) (comparing third-party bids to company-build option).

Need

We find that the capacity and energy from the Projects are not needed to serve Dominion's load growth in the short term.[16] We agree with Staff that through 2022, the Company does not need to increase capacity to serve native load. Any capacity need in the immediate short-term appears to be driven by the Company's election not to use certain of its existing generating units.[17] Beyond 2022, it is possible that the Company may need additional capacity, but the evidence in this proceeding does not clearly establish this need, as any such analysis would be dependent upon the PJM Interconnection, LLC ("PJM") load forecast.

In this regard, in the Commission's recent order on Dominion's 2018 Integrated Resource Plan ("IRP"), we found Dominion's internal load forecast to be overstated and directed the Company to use the Dominion Zone PJM coincident peak load forecast and energy sales forecast, scaled down to the Dominion load-serving entity level, when it filed its corrected 2018 IRP.[18] In rebuttal testimony in the instant proceeding, Dominion submitted evidence seeking to demonstrate that the Projects' capacity and energy were still needed even under the PJM load forecast.[19] Yet Senate Bill 966[20] mandates that Dominion propose $870 million in energy

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[16] *See, e.g.,* Ex. 12 (White) at 10-12; Ex. 14 (Abbott) at 10.

[17] Ex. 12 (White) at 10. The Company testified that "the cold reserve units have higher fixed costs (*e.g.,* labor and maintenance costs) than the benefits customers would receive through capacity and energy revenue from putting those units back into service." Ex. 20 (Kelly Rebuttal) at 3.

[18] *Commonwealth of Virginia, ex rel. State Corporation Commission, In re: Virginia Electric and Power Company's Integrated Resource Plan filing pursuant to Va. Code § 56-597 et seq.*, Case No. PUR-2018-00065, Doc. Con. Cen. No. 181210172, Order (Dec. 7, 2018) ("2018 IRP Order") at 8. Dominion's internal load forecast remains part of the record for the Company's 2018 IRP.

[19] Ex. 20 (Kelly Rebuttal) at 3.

[20] 2018 Va. Acts of Assembly, ch. 296.

efficiency and demand reduction programs,[21] and in our 2018 IRP Order we directed Dominion in its corrected IRP filing to model the impact of those programs as a *reduction* to the PJM load forecast. We did not expect Dominion to complete that modeling in time for the hearing in this proceeding, and Dominion acknowledged that the PJM forecast contained in its rebuttal testimony herein does not reflect a further reduction in load from the impact of the $870 million in efficiency programs contained in Senate Bill 966.[22]

Given that the revised load forecast for Dominion's 2018 IRP quantifying the expected reduction in load from the efficiency programs required by Senate Bill 966 has not been re-submitted and approved, we therefore find that use of the PJM load forecast in this proceeding to prove a capacity or energy need is not persuasive and does not establish that the Projects are needed.

The Projects, however, will also be used to provide environmental attributes to Scout Development LLC, a subsidiary of Facebook, Inc. ("Facebook") under Dominion's Schedule RF, which was recently approved by the Commission.[23] Under Schedule RF, customers that take service under certain cost-based tariffs and bring at least 30,000,000 kWh of incremental load to the Company's system can voluntarily commit to the development of new renewable generation facilities, by agreeing to purchase the environmental attributes of those facilities.[24] Pursuant to Schedule RF, Facebook has committed to purchasing the environmental attributes, including

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[21] Senate Bill 966, Enactment Clause 15.

[22] Tr. 399-401.

[23] *Application of Virginia Electric and Power Company, For approval to establish experimental companion tariff, designated Schedule RF, pursuant to § 56-234 B of the Code of Virginia*, Case No. PUR-2017-00137, Doc. Con. Cen. No. 180340169, Order Approving Tariff (Mar. 26, 2018).

[24] *See* Ex. 14 (Abbott), Attachment GLA-2.

renewable energy certificates ("RECs"), associated with the proposed Projects at a fixed price.[25] Thus, the Projects will be used to provide service to Facebook under Schedule RF.

In addition, DEQ has developed regulations regarding the Commonwealth's participation in the Regional Greenhouse Gas Initiative ("RGGI").[26] The US-3 Solar Projects will be used to comply with these RGGI requirements.[27]

Accordingly, taking the record as a whole, the Commission finds that the Projects are needed.

Cost

The US-3 Solar Projects will cost customers approximately $409.8 million in capital investment.[28] This capital investment will have a total estimated cost of $843 million in nominal dollars (or $419 million in net present value ("NPV")) including financing costs and operating costs, to be received over the useful life of the Projects.[29] Compared to other resource options, the Projects' cost per MWh is approximately 20% and 50% greater than a 20-year and 35-year

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[25] *See, e.g.,* Ex. 2 (Petition) at 5; Ex. 4 (Kelly Direct) at 13; Ex. 12 (White) at 11-12; Ex. 14 (Abbott) at 14.

[26] *Regulation for Emissions Trading Programs*, 34:10 VA.R. 924-959 (Jan. 8, 2018). We note that the State Air Pollution Control Board has approved a revised proposed regulation, which has not yet been published in the Virginia Register. The Company characterizes the revised regulation as "even more stringent than originally drafted." Ex. 18 (Windle Rebuttal) at 12.

[27] *See, e.g.,* Ex. 4 (Kelly Direct) at 10-11; Ex. 7 (Williams Direct) at 4-6; Ex. 12 (White) at 10-11; Ex. 14 (Abbott) at 11. In addition, Virginia's participation in RGGI may reasonably be expected to result in pushing existing generation resources into cold-storage or mothball status. *See, e.g.,* Tr. 76, 398. This outcome will increase costs to customers (the mothballed units must still be paid for) and will affect the communities where such units are located due to decreased tax revenues. *See, e.g.,* Tr. 76.

[28] *See* Ex. 11 (Harris) at 5.

[29] *See, e.g.,* Ex. 3 (Windle Direct) at 16; Ex. 11 (Harris) at 4-5.

power purchase agreement ("PPA"), respectively.[30] The Projects' cost per MWh, however, is lower than other supply resources (except generic solar) modeled in the Company's 2018 IRP.[31]

The actual cost to ratepayers of the US-3 Solar Projects will depend on the value of the RECs generated by the Projects and sold to Facebook.[32] The proceeds from the REC sales will offset the cost to ratepayers, and will depend upon the projected output of the Projects, the negotiated price to be paid by Facebook for the RECs for the first 20 years of the Projects, and the Pennsylvania Tier 1 forecasted REC prices for the remaining 15 years of the Projects' 35-year life.[33] It is therefore possible that the cost to customers will be higher or lower than expected, should the Projects' output or forecasted REC prices be less than or greater than expected.

Risk

From an economic standpoint, a solar project such as this one has two distinct advantages: there is no fuel-cost risk, and there is no carbon-cost risk. Solar, however, under the present state of technology is intermittent and non-dispatchable, so the economic risk is significantly related to its performance at generating electrical power. Simply put, as performance falls short, the costs go up.[34] Under the Company's Petition, customers will be required to pay for the costs of the Projects, plus a return to Dominion, for the entire 35-year life

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[30] *See, e.g.,* Ex. 14 (Abbott) at 20. Dominion asserted that these cost differences are also due, in part, to differences in the timing of the receipt of federal tax credits. *See, e.g.,* Ex. 18 (Windle Rebuttal) at 12; Tr. 498.

[31] *See, e.g.,* Ex. 14 (Abbott) at 19. The Commission directed Dominion to revise its 2018 IRP to develop a true least-cost plan. *See, e.g.,* 2018 IRP Order at 4.

[32] Ex. 3 (Windle Direct) at 6-7.

[33] Ex. 11 (Harris) at 9.

[34] *See, e.g.*, Tr. 269.

of the RAC.[35] As noted above, the General Assembly has declared as a matter of public policy that solar projects of this type are in the public interest. The question in this case, therefore, is not solar versus another type of resource; it is whether Dominion has structured the financial and performance risks of this solar project to be reasonable and prudent – and thus *fair* – for its customers.

The Company chose a self-build, as opposed to a PPA, model for these Projects. As noted by the Company, PPAs have their own unique risks. For example, as markets or the industry change over time, PPA owners have historically pursued changes to the contracts.[36] In addition, three prior solar PPAs selected by the Company are no longer being pursued by their respective developers for various reasons.[37]

In terms of *financial* risk, however, Dominion's stockholders bear little risk under either a self-build or a PPA option. Dominion will fully recover its valid costs under either one. Customers will pay those costs under either. Rather, it is in *performance* risk that the biggest potential difference is found. With a PPA model, such as Dominion's Water Strider solar project recently approved by this Commission,[38] performance risks are typically borne by the third-party vendor, not by Dominion's customers. With a self-build option as proposed in this Petition,

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[35] Any revenues from RECs purchased by Facebook will operate as a reduction (credit) in the amount Dominion may recover through the RAC for the first 20 years (the life of Dominion's contract with Facebook). *See, e.g.,* Ex. 14 (Abbott) at 14. Facebook is not a party in this proceeding and is, of course, not regulated by this Commission. The contract between Dominion and Facebook is not enforceable by this Commission. A shortfall or absence of REC revenues from Facebook would not impair Dominion's legal right to recover otherwise valid US-3 Solar Projects costs from customers through the RAC. *See, e.g.,* Ex. 14 (Abbott) at 17-18.

[36] *See, e.g.,* Ex. 23 (Billingsley Rebuttal) at 3-4.

[37] *See, e.g., id.* at 2.

[38] *Petition of Virginia Electric and Power Company, For a prudency determination with respect to the Water Strider Solar Power Purchase Agreement pursuant to § 56-585.1:4 F of the Code of Virginia*, Case No. PUR-2018-00135, Doc. Con. Cen. No. 18110152, Final Order (Nov. 2, 2018).

Dominion's customers bear both the performance and financial risks. Dominion bears little of either.

Thus, under Dominion's proposed self-build model, the Company's customers bear essentially all of the risk that the Projects do not meet the performance targets upon which Dominion has based its projected costs and benefits. That is, there is an inverse relationship that will see customers' costs rise as performance falls.[39] In this regard, Dominion's estimate of a positive NPV for customers is based on the solar generators meeting a 28% capacity factor. The actual performance in Virginia of solar generating resources has demonstrated actual capacity factors significantly below 28%, actually below 20%.[40] To the extent the actual performance of the Projects falls below 28%, the cost to customers goes up, and the NPV becomes negative for customers below 25%.[41]

In its rebuttal testimony, however, Dominion proposed a performance guarantee to address this performance – and concomitant financial – risk that would be placed on customers through a self-build option. Specifically, the Company proposed a performance guarantee that would hold customers harmless for performance below a collective 25% capacity factor for the Projects.[42] To the extent the actual capacity factor for the Projects falls below 25% for an annual calendar-year period, the Company proposed to credit customers for lost REC revenues and

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[39] For example, if the Projects do not meet targeted capacity factors and produce less energy: (1) Dominion will receive less REC revenue from Facebook than projected, the difference of which will be recovered from ratepayers; (2) customers will have to pay for replacement energy from the market; and (3) customers will still have to pay for the full cost of the Projects through Rider US-3. *See, e.g.,* Ex. 14 (Abbott) at 17-18.

[40] *See, e.g., id.* at 16; Ex. 15 (Comparison of Capacity Factors); Ex. 10 at 4. In Dominion's most recent IRP proceeding, this Commission found, based on evidence of actual performance in the record, that Dominion should model generic solar at a 23% capacity factor. 2018 IRP Order at 9.

[41] *See, e.g.,* Tr. 106; Ex. 12 (White) at 18.

[42] *See, e.g.,* Ex. 20 (Kelly Rebuttal) at 22-23; Ex. 22 (Scott Rebuttal) at 2.

replacement power costs associated with that deficit.[43] The Company proposed that the performance guarantee would remain in place for a period of seven years from the date that the first Project enters commercial operations.[44]

Based on the instant record, the Commission finds that a performance guarantee is appropriate and necessary to address the risk of rising and excessive costs to customers attendant to the proposed Projects. As discussed below, however, we further find that Dominion's proffered performance guarantee is insufficient for this purpose.

Performance Guarantee

The Commission finds that the Projects, as proposed in the Petition, are not "required by the public convenience and necessity" under Code § 56-580 D due to the performance and financial risks that would be placed on Dominion's customers.[45] Dominion's cost analyses are based on a 28% solar capacity factor.[46] The capacity factor at which customers essentially break even is 25%.[47] Based on the record herein, we do not find that it is reasonable for customers to bear the risks, for the life of the Projects, that either of these assumed capacity factors will be met. The actual performance of solar generating resources in Virginia has been below 20%, and

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[43] The lost REC revenues would be credited to customers through the next annual Rider US-3 update proceeding, and the replacement power costs would be credited through the next annual fuel factor proceeding. *See, e.g.,* Ex. 20 (Kelly Rebuttal) at 23; Tr. 420.

[44] *See, e.g.,* Ex. 20 (Kelly Rebuttal) at 23.

[45] Thus, we likewise find that it would not be reasonable and prudent, under Code § 56.585.1 D, for Dominion to incur the costs of the Projects under the terms set forth in its Petition.

[46] *See, e.g.,* Ex. 12 (White), Attachment EJW-3. Specifically, the Company used a capacity factor of 28.4% for Colonial Trail West and 27.3% for Spring Grove 1. *Id.*

[47] *See, e.g.,* Tr. 106; Ex. 12 (White) at 18.

the Company's existing US-2 solar facilities have underperformed with capacity factors as low as 16%.[48]

As noted above, Dominion proposed a seven-year performance guarantee in its rebuttal testimony "to hold customers harmless for performance below a 25% capacity factor . . . which is the level below which the Projects would no longer have a positive NPV to customers."[49] At the evidentiary hearing (and again in its post-hearing brief), Dominion proposed additional language where the Commission could decide – at some point during the seven-year period – to continue such guarantee beyond seven years based on the demonstrated performance of the Projects.[50] Both Environmental Respondents and Consumer Counsel support a performance guarantee as a condition for approval of the Projects. Environmental Respondents specifically requested the Commission to "approve this project with some sort of performance guarantee that the Commission finds acceptable."[51] Consumer Counsel supported a performance guarantee that is "no shorter than the corresponding 20-year REC purchase contract with [Facebook] in connection with Schedule RF."[52]

The Commission agrees with Environmental Respondents and Consumer Counsel that a sufficient performance guarantee is needed in order to find that the Projects are reasonable,

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[48] *See, e.g.,* Ex. 14 (Abbott) at 16; Ex. 15 (Comparison of Capacity Factors). Historic performance of similar facilities outside of Virginia has generally exceeded 25% only in the Southwest and in California. Ex. 10 at 4.

[49] Ex. 18 (Windle Rebuttal) at 8-9. *See also* Ex. 20 (Kelly Rebuttal) at 22-23; Tr. 344-351.

[50] Ex. 25; Dominion's Jan. 10, 2019 Brief at 9.

[51] Tr. 463.

[52] Consumer Counsel's Jan. 10, 2019 Brief at 3. Consumer Counsel also requested "no allowance for force majeure events, or, at a minimum, a narrowly tailored force majeure provision...." *Id.*

prudent, and required by the public convenience and necessity.[53] We also find that establishing a performance guarantee at this time of seven years – especially when contrasted against the risks being placed on customers with these Projects, the 20-year Facebook contract, and the 35-year life of the RAC during which customers will be paying for these Projects – is not sufficient for this purpose. Rather, we conclude that the performance guarantee required as part of any CPCN approval herein should be no shorter than 20 years, concurrent with the Facebook contract and providing necessary protection to customers through the time when the substantial majority of the Projects' costs will be paid.[54]

Accordingly, the Commission finds that the Projects are required by the public convenience and necessity, and that the costs thereof as identified in this proceeding are reasonable and prudent, only if the following conditions and requirements are met:

(1) The Projects shall collectively have a guaranteed capacity factor of 25% or higher for purposes of cost recovery. Customers shall be held harmless for performance below this 25% capacity factor.

(2) The collective capacity factor for the Projects shall be determined annually.

(3) In calculating the collective capacity factor, force majeure shall apply only to events that are truly sudden, catastrophic, and extraordinary (such as hurricanes), not to events such as vagaries in weather, equipment failures, design problems, or operation and maintenance issues. Should Dominion seek to invoke force majeure in calculating capacity factors, such claim shall be considered as an issue of fact in the annual RAC proceeding attendant to the Projects.

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[53] Dominion agreed that the Commission has the legal authority to condition CPCN approval on a performance guarantee. *See, e.g.,* Dominion's Jan. 10, 2019 Brief at 9-12.

[54] By year 20, *more than three-quarters* (78%) of the total costs of the project will have already been paid by customers through the RAC, with only 22% remaining to be paid over the remaining 15 years of the RAC. Ex. 11 (Harris), Schedule 1.

(4) The guaranteed capacity factor herein of 25% or greater shall remain in place for a period of 20 years from the date that the first Project enters commercial operations.

Federal Investment Tax Credits

Dominion's NPV calculations are also based on maximizing the federal investment tax credits ("ITCs") available for solar facilities, which represents an approximately $56 million benefit to customers on a NPV basis.[55] The Company, however, will only maximize such tax credits if it begins construction prior to December 31, 2019.[56] In this regard, the Commission's approval is conditioned on a total project cost that includes this $56 million benefit to the Company's customers. That is, as with the Projects' collective capacity factor above, the Commission finds that the Projects are required by the public convenience and necessity, and that the costs thereof as identified in this proceeding are reasonable and prudent, subject to the requirement that the Company's customers receive this maximum benefit from the ITCs.

Environmental Impact

The Code directs that the Commission "shall give consideration to the effect of that facility on the environment and establish such conditions as may be desirable or necessary to minimize adverse environmental impact."[57]

As noted above, DEQ coordinated an environmental review of the proposed Projects and submitted a DEQ Report that, among other things, set forth specific recommendations. We find

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[55] *See, e.g.,* Ex. 2 (Petition) at 5; Ex. 4 (Kelly Direct) at 15; Ex. 20 (Kelly Rebuttal) at 12. This equates to a total revenue requirement reduction of $119.8 million over the 35-year service life of the Projects. *See, e.g.,* Ex. 20 (Kelly Rebuttal) at 12.

[56] *See, e.g.,* Ex. 4 (Kelly Direct) at 15.

[57] Code § 56-46.1 A. *See also* Code § 56-580 D (stating that "the Commission shall give consideration to the effect of the facility and associated facilities on the environment and establish such conditions as may be desirable or necessary to minimize adverse environmental impact as provided in § 56-46.1 . . . .").

that as a condition of the CPCNs granted herein, the Company shall comply with the recommendations in the DEQ Report and coordinate with DEQ to implement DEQ's recommendations. As a further condition to the CPCNs granted herein, the Company shall obtain all environmental permits and approvals that are necessary to construct and operate the Projects.

Economic Development

As required by Code § 56-46.1 A, the Commission has "consider[ed] the effect of the proposed facility on economic development within the Commonwealth, including but not limited to furtherance of the economic and job creation objectives of the Commonwealth Energy Policy set forth in §§ 67-101 and 67-102."

In its pre-filed testimony,[58] Dominion claimed the Projects will promote economic development and cited a report that Dominion did not include with its testimony, but which it disclosed in response to a Staff discovery request.[59] Dominion acknowledged that the report only considered the benefits from the expenditure of money on the Projects, and did not include the potential economic impact of the costs on its customers throughout its service territory.[60] Thus, we cannot conclude, based on the report alone, that the Projects will result in either a positive or negative economic impact on Dominion's service territory or its more than two million customers.

[58] Ex. 3 (Windle Direct) at 8-9.

[59] Ex. 12 (White), Attachment EJW-20.

[60] Tr. 48-50.

Accordingly, IT IS ORDERED THAT:

(1) Dominion shall not construct the US-3 Solar Projects, or seek recovery therefor, if the Company does not accept all of the conditions and requirements of the Commission's approval set forth in this Order Granting Certificates.

(2) Subject to the conditions and requirements set forth in this Order Granting Certificates, Dominion is granted approval and Certificate of Public Convenience and Necessity Nos. EG-221 and EG-222 to construct and operate the US-3 Solar Projects as set forth in this proceeding.

(3) Pursuant to the Utility Facilities Act, Chapter 10.1 (§ 56-265.1 *et seq.*) of Title 56 of the Code, the Company is issued the following certificates of public convenience and necessity:

EG-221 Spring Grove 1 Solar Facility; and

EG-222 Colonial Trial West Solar Facility.

(4) This matter is continued.

AN ATTESTED COPY hereof shall be sent by the Clerk of the Commission to all persons on the official Service List in this matter. The Service List is available from the Clerk of the State Corporation Commission, c/o Document Control Center, 1300 East Main Street, First Floor, Tyler Building, Richmond, Virginia 23219. A copy shall also be sent to the Commission's Office of General Counsel and Divisions of Energy Regulation and Utility Accounting and Finance.

A True Copy
Teste:

Joel H. Peck

Clerk of the
State Corporation Commission