COMMONWEALTH OF VIRGINIA

STATE CORPORATION COMMISSION

AT RICHMOND, JUNE 27, 2019

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COMMONWEALTH OF VIRGINIA, ex rel.

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STATE CORPORATION COMMISSION

CASE NO. PUR-2018-00065

In re: Virginia Electric and Power Company's Integrated Resource Plan filing pursuant to Va. Code § 56-597 et seq.

FINAL ORDER

On May 1, 2018, Virginia Electric and Power Company ("Dominion" or "Company") filed with the State Corporation Commission ("Commission") the Company's 2018 Integrated Resource Plan ("IRP") pursuant to Code § 56-597 et seq. Dominion's 2018 IRP encompasses the planning period from 2019 to 2033.

On May 7, 2018, the Commission issued an Order for Notice and Hearing that, among other things: established a procedural schedule; set an evidentiary hearing date; directed Dominion to provide public notice of its IRP; and provided any interested person an opportunity to file comments on the Company's IRP, or to participate in the case as a respondent by filing a notice of participation. Notices of participation were filed by Appalachian Voices ("Environmental Respondents"); the Virginia Chapter of the Sierra Club; the Board of Supervisors of Culpeper County, Virginia ("Culpeper County"); the Mid-Atlantic Renewable Energy Coalition ("MAREC"); the Solar Energy Industries Association ("SEIA"); the Virginia Committee for Fair Utility Rates ("Committee"); Sandra L. Meyer, Trustee of the Meyer Family Trust ("Meyer Trust"); and the Virginia Office of the Attorney General, Division of Consumer Counsel.

On September 24, 2018, the Commission convened a hearing on the Company's 2018 IRP.¹ During the hearing, the Commission received the testimony of public witnesses.² The Commission also received testimony and exhibits from Dominion, respondents, and Staff. The hearing concluded, after closing arguments, on September 27, 2018.

On December 7, 2018, the Commission issued an Order, which determined that the Company had failed to establish that its 2018 IRP satisfied statutory and regulatory requirements.³ Accordingly, the Commission ordered that "the Company shall re-run and re-file the corrected results of its 2018 IRP within 90 days from the date of this Order, subject to the requirements of this Order."⁴

On February 12, 2019, the Commission issued an Order Establishing Schedule for Continuation of Proceeding, which established a procedural schedule for the remainder of this proceeding.

On March 7, 2019, Dominion filed an amendment to its 2018 IRP ("March Filing") as ordered by the Commission.

On May 8, 2019, the Commission reconvened the hearing on the Company's 2018 IRP.⁵ During the hearing, the Commission received the testimony of public witnesses.⁶ The

¹ Commission Staff ("Staff") and all parties except Culpeper County, the Committee, and the Meyer Trust participated in the hearing.

² Tr. 12-50. The Commission also received public comments filed pursuant to the Order for Notice and Hearing.

³ 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 at 2-3 (Dec. 7, 2018) ("December 2018 Order").

⁴ Id. at 5.

⁵ Staff and all parties except Culpeper County, the Committee, MAREC, SEIA, and the Meyer Trust participated in the hearing. At the hearing, it was noted that as this proceeding began in early 2018 and the first evidentiary hearing took place in September 2018, Commissioner West, who took office in March of this year, would not participate.

⁶ Tr. 1017-1044.

Commission also received testimony and exhibits from Dominion, respondents, and Staff. The hearing concluded with closing arguments.

NOW THE COMMISSION, upon consideration of this matter, is of the opinion and finds as follows.

Legal Sufficiency of Dominion's 2018 IRP, as Amended

Pursuant to § 56-599 C of the Code, the Commission must, after giving notice and an opportunity to be heard, determine whether Dominion's IRP is reasonable and in the public interest. The Commission finds that the Company's 2018 IRP, as originally filed on May 1, 2018, and amended on March 7, 2019: (1) complies with the directives in the Commission's December 2018 Order; and (2) is reasonable and in the public interest for the specific and limited purpose of filing the planning document as mandated by § 56-597 et seq. of the Code.⁷

A primary purpose of an IRP, however, is to give the public – which includes customers and the legislators who represent them – a reasonably accurate picture of the probable costs that customers will pay in the future to receive a reliable supply of electrical power, which is

⁷ Consistent with prior orders issued under these provisions of the Code, we reiterate that approval of an IRP does not create a presumption that resource options contained in the approved IRP will be approved in a future certificate of public convenience and necessity ("CPCN"), rate adjustment clause, fuel factor, or other type of proceeding governed by different statutes. See, e.g., 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-2017-00051, Doc. Con. Cen. No. 180320095, Order at 3 (Mar. 12, 2018); 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. PUE-2016-00049, 2016 S.C.C. Ann. Rept. 405, 406, Final Order (Dec. 14, 2016); 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 sea., Case No. PUE-2011-00092, 2012 S.C.C. Ann. Rept. 296, 296, Final Order (Oct. 5, 2012); Commonwealth of Virginia, ex rel., State Corporation Commission, In re: Appalachian Power Company's Integrated Resource Plan filing pursuant to Va. Code § 56-597 et seq., Case No. PUE-2009-00097, 2010 S.C.C. Ann. Rept. 387, 389, Final Order (Aug. 6, 2010): 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. PUE-2009-00096, 2010 S.C.C. Ann. Rept. 385, 387, Final Order (Aug. 6, 2010).

essential to modern life and commerce. As detailed below, the instant IRP, while it meets the minimum legal and regulatory requirements, may significantly understate the costs facing Dominion's customers.

This understatement of future customer costs is particularly acute given that Dominion's IRP does not include – appropriately – the multi-billion dollar costs of the statutorily mandated coal-ash removal passed by the 2019 General Assembly and signed by the Governor,⁸ which Dominion will collect from customers through a rate adjustment clause ("RAC"), as well as other environmental costs, also eligible for RAC recovery.⁹ Further, Dominion is planning to spend several billion dollars (described below) on transmission and distribution projects not included in the 2018 IRP, most if not all of which will also be eligible for RAC recovery.

In sum, we approve Dominion's IRP as legally sufficient, and we recognize the appropriateness of spending on capital projects when need is proven by factual evidence in actual cases. We do not, however, express approval in this Final Order of the magnitude or specifics of Dominion's future spending plans, the costs of which will significantly impact millions of residential and business customers in the monthly bills they must pay for power.

Costs above the Least-Cost Plan

The Commission requires Dominion and other utilities to include a true least-cost plan in each IRP filing. This plan is necessary to enable the public to know the *additional* costs of various planning scenarios. While the least-cost plan is sometimes dismissed as "unrealistic," it does show the least cost at which a reliable supply of electrical power *could* be obtained, without

⁸ Senate Bill 1355, 2019 Acts ch. 651.

⁹ This IRP is a snapshot in time that predates such legislation. Also, this IRP does not model integrated transmission and distribution plans. See, e.g., Tr. 1092-1093. As projects in one area increasingly create or extinguish projects in another, there is a need to require expansion of the IRP to include at a minimum distribution plans. Indeed, Senate Bill 966 (cited and discussed further, below) now requires future IRPs to include "[1]ong-term electric distribution grid planning and proposed electric distribution grid transformation projects." Code § 56-599 B 10.

the costs of various legislative requirements and the Company's corporate goals. The least-cost plan is a valid benchmark against which to gauge the incremental costs of these public policies and investment goals.

As amended as required by the Commission's December 2018 Order, the Company's least-cost plan includes substantially fewer new plants to be built and is significantly less expensive for customers. For example, the Company's amended least-cost plan calls for more than 5,000 fewer megawatts ("MW") of new resources over 15 years, compared to the originally-filed least-cost plan, a reduction of more than 50 percent. The amended plan is also nearly \$8 billion less expensive over 15 years on a net present value ("NPV") basis, compared to the originally-filed least-cost plan. The amended plan is also the originally-filed least-cost plan.

Costs of Senate Bill 966

In the Commission's order approving Dominion's 2017 IRP, issued March 12, 2018, we directed the Company to model the costs of the various mandates contained in Senate Bill 966, ¹²

¹⁰ See, e.g., Ex. 70 (Abbott) at 7-10.

¹¹ Id. at 6.

¹² Dominion filed a legal memorandum ("Dominion's Legal Memorandum") with its March 7, 2019 filing objecting to the use of the word "mandate." Dominion stated that Senate Bill 966 contains several provisions that have different legal standards for approval in either a CPCN or RAC proceeding and are not all "mandates" in a legal sense. We agree that Senate Bill 966 contains numerous provisions that, when it comes time to consider a CPCN or RAC for a specific project, will be governed by the legal standard applicable to that specific proceeding and those legal standards are not all identical. For example, the legal standard in Senate Bill 966 governing the Strategic Undergrounding Program is different from the standard governing Grid Transformation projects, as reflected in the actual decisions the Commission has issued in which we applied each standard. See Case Nos. PUR-2018-00042 and PUR-2018-00100. As noted above, the Commission has repeatedly stated that an IRP is a planning document only, and approval of an IRP does not constitute approval of any CPCN or RAC for any asset contained in an IRP. Because the IRP is a planning document, the use of the word "mandate" in this context is descriptive and simply means that Dominion should model the costs of the various provisions of Senate Bill 966 that were listed by the Commission. Whether such provisions are described as "mandates" or as synonyms such as "directives," "instructions," "requirements" or "edicts," they are more than "suggestions," and the cost of each should be modeled as accurately as possible.

which was passed by the General Assembly in 2018 and signed by the Governor. 13

Dominion did so. The facts show that, compared to the least-cost plan, the various provisions of Senate Bill 966 will cost customers the following on an NPV basis:¹⁴

- With respect to the Company's distribution line undergrounding program, called its Strategic Undergrounding Program ("SUP"), the incremental NPV cost is approximately \$1.4 billion¹⁵ compared to the least-cost plan.¹⁶
- With respect to the Company's plan for electric distribution Grid Transformation projects, the incremental NPV cost is approximately \$2.2 billion¹⁷ compared to the least-cost plan.¹⁸
- Together, the incremental NPV costs of deploying 5,000 MW of solar photovoltaic ("PV") resources, a 30 MW battery storage pilot and the 12 MW Coastal Virginia Offshore Wind demonstration project, is approximately \$1.5 billion compared to the least-cost plan. 19

¹³ 2018 Acts ch. 296. Senate Bill 966 is also referred to as the "Grid Transformation and Security Act."

¹⁴ In order to compare various plans in the IRP, future costs are discounted back to a common point in time producing the NPV cost. The NPV cost does not reflect the full lifetime revenue requirement, including financing costs, of the investments which will be higher than the NPV cost.

¹⁵ Under Senate Bill 966, the Commission is required to approve recovery of SUP costs, subject to certain spending limits and outage requirements. See Code § 56-585.1 A 6. The Commission most recently approved updated Rider U in Case No. PUR-2018-00042, the Company's fourth Rider U application. In doing so, the Commission found the lifetime revenue requirement of the entire SUP is approximately \$5.8 billion, which includes recovery of costs and a return on equity on approximately \$2 billion of capital costs. The Commission further found that Dominion estimates that by 2028, the total Rider U impact on a monthly residential bill will be \$5.16. See Application of Virginia Electric and Power Company, For revision of rate adjustment clause: Rider U, new underground distribution facilities, for the rate year commencing February 1, 2019, Case No. PUR-2018-00042, Doc. Con. Cen. No. 181220181, Final Order (Dec. 19, 2018).

¹⁶ March Filing at 18.

¹⁷ The Commission considered the Company's first plan for electric distribution Grid Transformation projects ("Grid Plan") in Case No. PUR-2018-00100. While approving proposed cyber and physical security elements and certain related telecommunications elements, the Commission found the remaining costs had not been shown by Dominion to be reasonable and prudent. The Commission found that if the total Grid Plan had been approved, the lifetime revenue requirement of these investments would have been approximately \$6 billion, including financing costs. See Petition of Virginia Electric and Power Company, For approval of a plan for electric distribution grid transformation projects pursuant to § 56-585.1 A 6 of the Code of Virginia, Case No. PUR-2018-00100, Doc. Con. Cen. No. 190130074, Final Order (Jan. 17, 2019).

¹⁸ March Filing at 18.

¹⁹ Id.

• In total, if implemented, the provisions contained in Senate Bill 966 are almost \$6 billion more expensive than the least-cost plan on an NPV cost basis.²⁰

Cost of Dominion's Investment Plans

On March 25, 2019, Dominion made a presentation to Wall Street investors, known as its "Investors Day Presentation," that described its investment plans for the next five years.

Dominion was not directed by our December 2018 Order to include such information in its March 7, 2019 amended filing that was to correct its 2018 IRP, but this information is essential to developing an accurate picture of what Dominion's customers most likely face in terms of costs in the years to come. ²²

In this regard, the cost of Dominion's investment plans is substantially higher than even the highest cost scenario contained in its amended 2018 IRP.²³ For example, over the next five years, the Investors Day Presentation calls for:

- Additional investment of \$1.5 billion in Company-build solar PV investment not included in any plan contained in the amended 2018 IRP and \$3.7 billion more solar investment compared to the least-cost plan.²⁴
- Additional investment of \$0.8 billion in offshore wind investment not included in any plan contained in the amended 2018 IRP and \$1.1 billion more wind investment compared to the least-cost plan.²⁵

²⁰ Id.

²¹ Exhibit 60.

²² See also Tr. 1092-1093.

²³ See, e.g., Ex. 70 (Abbott) at 32.

²⁴ *Id.* Of this \$3.7 billion (on a total Company basis), the Company anticipates \$1.3 billion will be recovered through voluntary ring-fenced arrangements with individual customers, and \$2.4 billion would be recovered through customer rates. Ex. 60 at 39.

²⁵ Ex. 70 (Abbott) at 32.

- An additional \$1 billion in investment in a Pumped Storage Facility not included in any plan in the amended 2018 IRP.²⁶
- Continued investment in nuclear relicensing in the amount of \$1.2 billion.²⁷
 In addition to these generating resources, the Investors Day Presentation calls for investment of \$4.3 billion in transmission facilities; \$1.7 billion in distribution infrastructure and growth of future customer spend; and \$1.6 billion in Grid Transformation investment.²⁸ In total, the Investor Day Presentation included approximately \$16.4 billion in capital investment. The Company further acknowledged that the majority of these costs are eligible to be recovered from customers through a RAC.²⁹

These costs will likely have a significant impact on the rates that customers will pay in their monthly bills over the next five years and beyond. The evidence in this regard showed the following:

- The Investors Day Presentation spending results in an incremental increase to Virginia jurisdictional rate base of \$12.1 billion by December 31, 2023, an increase of approximately 67 percent above jurisdictional rate base of \$18 billion as of December 31, 2018.³⁰
- The \$12.1 billion increase to Virginia jurisdictional rate base, before consideration of anticipated offsetting decreases to rates, would result in an estimated monthly increase of \$29.37 for a "typical residential customer" using 1,000 kilowatt hours per month.³¹

²⁶ Id.

²⁷ Id.

²⁸ Id.

²⁹ Tr. 1092-1104. As mentioned below, of the \$16.4 billion in planned capital investment, \$12.1 billion is Virginia jurisdictional.

³⁰ Ex. 72 at 2-3; Ex. 73 at Schedule 2.

³¹ Id. The Company projects that expected decreases to rate base, along with lower fuel costs, will partially mitigate the impact on customers' bills. We note, however, that future changes in fuel costs are uncertain due to a variety of factors that are independent of Dominion's capital cost recovery amounts. While solar and wind generation have no fuel costs, needed back-up generation, primarily gas, does. In addition, this estimated monthly bill increase does not

Early Shutdowns of Existing Generating Plants

Dominion has closed several generating plants much earlier than it indicated in prior IRP filings made at this Commission.³² In addition to negative impacts on the communities in which these plants are located, such as lost jobs and local property tax revenues, there is also a substantial impact on customers. Dominion's analysis showed that in the long run customers will come out ahead, but as Environmental Respondents point out, the timing of these retirements matters and matters a lot.³³ Closing plants early allows Dominion to write them off against overearnings in the upcoming triennial review, reducing the amount it may otherwise be required to return to customers in the form of refunds.³⁴ It also has today's customers bearing more of the cost than would staggering the retirements over longer time periods.³⁵

In addition, closing plants means customers no longer have access to the capacity and energy provided by the shuttered plants. As the Company acknowledged, this creates a need for new generating resources to replace the plants closed by the Company.³⁶ The cost of the replacement plants will be paid by the Company's customers over the plants' useful lives (to the

include the cost impact of Senate Bill 1355, passed by the 2019 General Assembly and signed by the Governor (the coal ash removal legislation), which is estimated at several billion dollars.

³² See, e.g., Ex. 71 (Myers) at 1-2.

³³ Tr. 1308. While Staff agreed that "the unit retirements are mathematically part of the least-cost plan," Staff further explained that "[i]f only one assumption is slightly changed, this analysis may instead show that the unit retirements are no longer part of the least-cost plan." Ex. 70 (Abbott) at 10-11. Thus, "Staff does not believe these savings are so compelling that it necessarily justifies retiring approximately 2,100 MWs of capacity over such a short timeframe." *Id.* at 11.

³⁴ See, e.g., Ex. 71 (Myers) at 4.

³⁵ In addition, Staff testified that "given the recent volatility of current energy markets and shifting policy goals, a more conservative strategy of gradualism may be more appropriate where these unit retirements are staggered over a longer time period." Ex. 70 (Abbott) at 11.

³⁶ Tr. 1079.

extent that the Company does not otherwise treat such costs as a customer credit reinvestment offset under Senate Bill 966). Furthermore, under current law, those costs are eligible for recovery through a stand-alone RAC on a dollar-for-dollar basis plus financing costs.³⁷

Solar Power Purchase Agreements ("PPAs") versus Dominion-Owned Solar Resources

Code § 56-585.1:4 reads as follows:

D. 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. (Emphases added.)

Dominion argues that the 25% is a legally fixed "precise" amount of capacity that must be purchased from non-utility resources.³⁸ On the other hand, Environmental Respondents argue that the 25% is a legal floor.³⁹ The General Assembly knows how to include modifiers (such as "no more than" or "no less than") when legislating fractions of a whole number, but did not do so in this instance. Thus, in the Commission's assessment, the 25% provision would appear to be an aspirational goal or target. As previously stated by the Commission, "Code § 56-585.1:4 [A] refers to 5,000 [MW] 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."⁴⁰ As Dominion correctly states, the

³⁷ Code § 56-585.1 A 6.

³⁸ See, e.g., Dominion's Legal Memorandum at 8-9.

³⁹ See, e.g., Ex. 63 (Rábago) at 20.

⁴⁰ Petition of Virginia Electric and Power Company, 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,

5,000 MW is not a specific target applicable to Dominion.⁴¹ Similarly, the 25% PPA target quoted above appears to be a statewide goal and not utility-specific.⁴² Accordingly, strictly for planning purposes, we find it valuable to obtain information on the costs of both solar PPAs and self-build options. Therefore, we will direct Dominion to model solar PPAs at 25% and 50% of the solar generation capacity placed in service under Code § 56-585.1:4.

Future IRPs

In future IRPs, Dominion shall, among other things:

- 1. Model a true least-cost plan, as defined in our December 2018 Order.
- 2. Continue to use the PJM⁴³ load forecast, reduced by the energy efficiency spending requirement of Senate Bill 966,⁴⁴ both as an energy reduction and a supply resource, and separately identify the load associated with data centers.
- 3. Model battery storage using the most updated cost estimates available.
- 4. Model compliance with the Regional Greenhouse Gas Initiative.
- 5. Model gas transportation costs. 45
- 6. Model solar PPAs as 25% and 50% of the solar generation capacity placed in service under Code § 56-585.1:4.
- 7. Model future solar PV tracking resources using two alternative capacity factor values: (a) the actual capacity performance of Dominion's Company-owned solar tracking

designated Rider US-3, under § 56-585.1 A 6 of the Code of Virginia, Case No. PUR-2018-00101, Doc. Con. Cen. No. 190140132, Order Granting Certificates at 8 (Jan. 24, 2019) ("US-3 Certificate Order") (emphasis in original).

⁴¹ Dominion's Legal Memorandum at 7.

⁴² The Commission previously recognized that it is not "apparent whether the 25% criterion is applicable to each public utility separately." US-3 Certificate Order at 8.

⁴³ PJM Interconnection LLC.

⁴⁴ See Senate Bill 966, Enactment cl. 15.

⁴⁵ Consistent with the December 2018 Order, the Company should include a reasonable estimate of fuel transportation costs, including firm and interruptible transportation, if applicable, associated with all natural gas generation facilities as well as fuel commodity costs. December 2018 Order at 5 n.14.

fleet in Virginia using an average of the most recent three-year period; 46 and (b) 25%. 47

- 8. Systematically evaluate long-term electric distribution grid planning and proposed electric distribution grid transformation projects. For identified grid transformation projects, the Company shall include: (a) a detailed description of the existing distribution system and the identified need for each proposed grid transformation project; (b) detailed cost estimates of each proposed investment; (c) the benefits associated with each proposed investment; and (d) alternatives considered for each proposed investment.
- 9. Provide a schedule identifying the Company's contribution towards meeting the 5,000 MW target identified in Code § 56-585.1:4, including (a) a list of each project in service or under construction; (b) the nameplate capacity of each project; (c) the actual or projected in-service date; (d) whether the project is Company-build or a third-party PPA; and (e) the cost recovery mechanism (e.g., fuel, base rates, RAC, ring-fence arrangement, etc.).⁴⁹
- 10. Provide, in addition to a list of planned transmission projects, the projected cost per transmission project and indicate whether or not each project is subject to PJM's Regional Transmission Expansion Planning process. 50

Accordingly, IT IS SO ORDERED, and this matter IS DISMISSED.

Commissioner Patricia L. West did not participate in this matter.

⁴⁶ For the 2020 IRP, the Company should use the three-year average of calendar years 2017-2019. For those solar tracking facilities that have not been in service for all three years, the Company should use the historic data that is available.

⁴⁷ The Commission previously found the Company's REC price forecast methodology to be unreasonable. December 2018 Order at 9-10. The Company proposes to work in consultation with the Staff to develop an appropriate REC price methodology, including appropriate risk scenarios, for upcoming IRP filings. Ex. 79 (Thomas Rebuttal) at 7. We agree and so direct.

⁴⁸ Code § 56-599 B 10.

⁴⁹ Such information will assist the Commission in the preparation of its annual report to the Governor and the General Assembly required by Code § 56-596.1. Further in this regard, the Company shall also maintain this information on an on-going basis and provide it to Staff upon request.

⁵⁰ In so directing, we are cognizant that more than 25% (\$4.3 billion) of the new capital investment presented in the Investors Day Presentation relates to transmission. Ex. 60 at 41.

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 Commission, c/o Document Control Center, 1300 East Main Street, First Floor, Tyler Building, Richmond, Virginia 23219.