PART B

## Summary of the Pre-filed Testimony of Carol B. Myers

## Customer Bill Impacts

My testimony presents an analysis of projected monthly bills for residential, small general service, and large general service customers of Virginia Electric and Power Company d/b/a Dominion Energy Virginia ("Company") based on Plans A, B, and B<sub>19</sub> of its 2020 Integrated Resource Plan ("IRP") as compared to monthly bills as of May 1, 2020, summarized as follows:

	Residential <sup>1</sup>		GS-1 <sup>2</sup>		GS-4P <sup>3</sup>	
	Plan B <sub>19</sub>	Plan B	Plan B <sub>19</sub>	Plan B	Plan B <sub>19</sub>	Plan B
May 1, 2020	\$116.18	\$116.18	\$536.13	\$536.13	\$311,302	\$311,302
Plan A	\$24.70	\$24.70	\$148.69	\$148.69	\$103,464	\$103,464
Pre-2020 Legislation	\$16.57	\$16.84	\$78.46	\$80.08	\$29,595	\$31,215
2020 Legislation	\$26.05	\$22.73	\$125.05	\$108.31	\$55,596	\$45,920
Total 2030 Year End	\$183.50	\$180.45	\$888.33	\$873.21	\$499,957	\$491,901
Total Bill Increase	\$67.32	\$64.27	\$352.20	\$337.08	\$188,655	\$180,599

<sup>1</sup> Residential Bill Analysis assumes monthly typical usage of 1,000 kWh

Staff's analysis of projected monthly bills for residential customers ("Residential Bill Analysis") for Plans B and B<sub>19</sub>, respectively, calculates higher projected bill increases of between \$64.27 and \$67.32 per month, as compared to the Company's projected increases of between \$52.40 and \$55.02 per month. On an annual basis, Staff's analysis calculates for Plans B and B<sub>19</sub>, respectively, projected bill increases of between \$771.24 and \$807.84, compared to the Company's estimate of between \$628.80 and \$660.24. This difference is driven by the use of differing residential allocation factors and kilowatt-hour ("kWh") sales between Staff and the Company.

In its Residential Bill Analysis, the Company uses projected kWh sales and projected residential allocation factors based on its internal load forecast that decline to a low of 49.12% by 2030. Staff has concerns regarding the Company's use of declining residential allocation factors because they are significantly lower than actual residential allocation factors over the last ten years, which average 55.85%. To provide a more realistic estimate of the cost to a typical residential customer of Plans A, B, and B<sub>19</sub> based on how costs are assigned to the residential customer class today, Staff's Residential Bill Analysis is calculated using the residential allocation factor of 55.26% and kWh sales actually proposed by the Company for use in setting rates in recent 2020 rate adjustment clause proceedings.

I also discuss other key assumptions included in the Residential Bill Analysis conducted by both the Company and Staff, including the following: (1) that base rates will remain at their current level through 2030; (2) the use of a historical Virginia jurisdictional allocation factor that assumes North Carolina customers will pay for the investments in Plans B and B<sub>19</sub>; (3) that the Company will continue to participate in the PJM capacity market; and (4) the use of monthly usage of 1,000 kWh to calculate bill impacts for a residential customer.

<sup>&</sup>lt;sup>2</sup>GS-1 Bill Analysis assumes monthly usage of 6,000 kWh

<sup>&</sup>lt;sup>3</sup> GS-4P Bill Analysis assumes monthly usage of 6,000,000 kWh and monthly demand of 10,000 KW

## 2020-2035 Projected Capital Investments

My testimony also presents 2020 through 2035 generation growth capital investments (and associated total Company lifetime revenue requirements) included in Plans B and B<sub>19</sub> and identified in recent Dominion Energy, Inc., presentations to investors. A summary of these investments for Plan B is summarized as follows, in billions of dollars:

	Additional	Projected Capital	Lifetime Revenue
	Generation	Investment	Requirement
Offshore Wind	5,280 MW	\$17.18	\$37.12
Solar	10,375 MW	\$15.45	\$38.52
Storage	1,755 MW	\$6.82	\$15.47
Gas Combustion Turbines	970 MW	\$0.62	\$1.90
Nuclear License Renewals		\$3.44	\$7.61
Total	18,380 MW	\$43.51	\$100.63

My testimony also quantifies projected growth capital investments for the distribution function of \$4.5 billion from 2020 through 2030 (at a total Company lifetime revenue requirement of \$13.4 billion). These investments include the Company's Strategic Undergrounding Program, Grid Transformation Plan, and broadband projects. In addition, my testimony identifies \$8 billion of additional transmission function growth capital investments included in recent investor presentations. In total, Plan B of the 2020 IRP includes generation, transmission, and distribution growth capital investments of approximately \$56 billion.

### PRE-FILED TESTIMONY

OF

## **CAROL B. MYERS**

## VIRGINIA ELECTRIC AND POWER COMPANY CASE NO. PUR-2020-00035

## **PUBLIC VERSION**

## September 29, 2020

- Q. PLEASE STATE YOUR NAME AND THE POSITION YOU HOLD WITH THE STATE CORPORATION COMMISSION ("COMMISSION").
- A. My name is Carol B. Myers. I am a Deputy Director in the Commission's Division of Utility Accounting and Finance.
- Q. PLEASE PROVIDE A SUMMARY OF YOUR TESTIMONY.
- A. My testimony addresses the following topics related to Virginia Electric and Power Company d/b/a Dominion Energy Virginia's ("Dominion," "DEV," or "Company") 2020 Integrated Resource Plan ("IRP"):
  - 1. <u>Customer Bill Impacts</u>: I present Staff's analysis of projected monthly bills for residential, small general service, and large general service customers based on Plans A, B, and B<sub>19</sub> of the 2020 IRP as compared to monthly bills as of May 1, 2020, as summarized in the following table:

Table 1
Summary of Staff Bill Analyses

	Resid	dential <sup>1</sup> GS-		-1 <sup>2</sup>	1 <sup>2</sup> GS-4P <sup>3</sup>	
	Plan B <sub>19</sub>	Plan B	Plan B <sub>19</sub>	Plan B	Plan B <sub>19</sub>	Plan B
May 1, 2020	\$116.18	\$116.18	\$536.13	\$536.13	\$311,302	\$311,302
Plan A	\$24.70	\$24.70	\$148.69	\$148.69	\$103,464	\$103,464
Pre-2020 Legislation	\$16.57	\$16.84	\$78.46	\$80.08	\$29,595	\$31,215
2020 Legislation	\$26.05	\$22.73	\$125.05	\$108.31	\$55,596	\$45,920
Total 2030 Year End	\$183.50	\$180.45	\$888.33	\$873.21	\$499,957	\$491,901
Total Bill Increase	\$67.32	\$64.27	\$352.20	\$337.08	\$188,655	\$180,599

<sup>&</sup>lt;sup>1</sup> Residential Bill Analysis assumes monthly typical usage of 1,000 kWh

Staff's analysis of projected monthly bills for residential customers ("Residential Bill Analysis") for Plans B and B<sub>19</sub>, respectively, calculates higher projected bill increases of between \$64.27 and \$67.32 per month, as compared to the Company's projected increases of between \$52.40 and \$55.02 per month. On an annual basis, Staff's analysis calculates for Plans B and B<sub>19</sub>, respectively, projected bill increases of between \$771.24 and \$807.84, compared to the Company's estimate of \$628.80 and \$660.24. This difference is driven by the use of differing residential allocation factors and kilowatt-hour ("kWh") sales between Staff and the Company.

In its Residential Bill Analysis, the Company uses projected kWh sales and projected residential allocation factors based on its internal load forecast that decline to a low of 49.12% by 2030. Staff has concerns regarding the Company's use of declining residential allocation factors because they are significantly lower than actual residential allocation factors over the last ten years, which average 55.85%. To provide a more realistic estimate of the cost to a typical residential customer of Plans A, B, and B<sub>19</sub> based on how costs are assigned to the residential customer class today, Staff's Residential Bill Analysis is calculated using the residential allocation factor of 55.26% and kWh sales actually proposed by the Company for use in setting rates in recent 2020 rate adjustment clause ("RAC") proceedings.

I also discuss other key assumptions included in the Residential Bill Analysis conducted by both the Company and Staff, including: (1) that base rates will remain at their current level through 2030; (2) the use of a historical Virginia jurisdictional allocation factor that assumes North Carolina customers will pay for the investments in Plans B and B<sub>19</sub>; (3) that the Company will continue to

<sup>&</sup>lt;sup>2</sup>GS-1 Bill Analysis assumes monthly usage of 6,000 kWh

<sup>&</sup>lt;sup>3</sup> GS-4P Bill Analysis assumes monthly usage of 6,000,000 kWh and monthly demand of 10,000 KW

participate in the PJM capacity market; and (4) the use of monthly usage of 1,000 kWh to calculate bill impacts for a residential customer.

2. 2020-2035 Projected Capital Investments: I present Staff's analysis of 2020 through 2035 generation growth capital investments (and associated total Company lifetime revenue requirements) included in Plans B and B<sub>19</sub> and identified in recent Dominion Energy, Inc., 1 presentations to investors. The following table summarizes these investments for Plan B:

Table 2
Summary of Plan B Capital Investments
From 2020 - 2035
(In Billions of Dollars)

	Additional	Projected Capital	Lifetime Revenue
	Generation	Investment	Requirement
Offshore Wind	5,280 MW	\$17.18	\$37.12
Solar	10,375 MW	\$15.45	\$38.52
Storage	1,755 MW	\$6.82	\$15.47
Gas Combustion Turbines	970 MW	\$0.62	\$1.90
Nuclear License Renewals		\$3.44	\$7.61
Total	18,380 MW	\$43.51	\$100.63

My testimony also quantifies projected growth capital investments for the distribution function of \$4.5 billion from 2020 through 2030 (at a lifetime revenue requirement of \$13.4 billion). These investments include the Company's Strategic Undergrounding Program, Grid Transformation Plan, and broadband projects. In addition, my testimony identifies \$8 billion of additional transmission function growth capital investments included in recent investor presentations. In total, Plan B of the 2020 IRP includes generation, transmission, and distribution growth capital investments of approximately \$56 billion.

<sup>1</sup> Dominion Energy, Inc., is the parent company of Dominion.

## I. 2020 IRP CUSTOMER BILL IMPACTS

### Residential Bill Analysis

- Q. PLEASE PROVIDE AN OVERVIEW OF THE COMMISSION'S MARCH 9, 2020 ORDER IN THIS PROCEEDING AS IT RELATES TO THE RESIDENTIAL BILL ANALYSIS.
- A. In its March 9, 2020 Order in this proceeding, the Commission directed Dominion to model the costs and reliability impacts of the Virginia Clean Economy Act ("VCEA") and other relevant legislation in its 2020 IRP.<sup>2</sup> Specifically, the Commission directed that DEV's 2020 IRP shall do the following, among other things:

Model the mandates and requirements of the VCEA and other relevant legislation based on the best available information, using reasonable and appropriately documented assumptions if necessary;<sup>3</sup>

The Commission also directed DEV to:

Calculate separately the annual bill impacts of the least cost plan, the VCEA, and additional legislation over each of the next ten years as compared to the bill of a residential customer using 1,000 kilowatt-hours per month as of May 1, 2020, including not only generation costs but also transmission and distribution costs;<sup>4</sup>

<sup>&</sup>lt;sup>2</sup> 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-2020-00035, Doc. Con. Cen. No. 200320013, Order (Mar. 9, 2020).

<sup>&</sup>lt;sup>3</sup> Id. at 2.

<sup>4</sup> Id.

## Q. DID THE COMPANY PREPARE A RESIDENTIAL BILL ANALYSIS AS DIRECTED BY THE COMMISSION?

A. Yes, it did. DEV's 2020 IRP includes a comprehensive Residential Bill Analysis based on least cost Plan A as well as VCEA-compliant Plans B and B<sub>19</sub>, showing projected residential monthly bills over the next ten years. Figure 2.5.3 from the 2020 IRP, as revised on May 14, 2020, summarizes the results of the Company's Residential Bill Analysis as follows:<sup>5</sup>

Figure 2.5.3 – Residential Bill Projection for Plan B and Plan B<sub>19</sub> (1,000 kWh per Month)

	Plan B <sub>19</sub>		Plan B	
	Projected Bill	CAGR	Projected Bill	CAGR
May 1, 2020	\$116.18		\$116.18	
Plan A	\$18.18	1.4%	\$18.18	1.4%
Pre-2020 Legislation <sup>2</sup>	\$15.01	1.0%	\$15.28	1.0%
2020 Legislation <sup>3</sup>	\$21.83	1.3%	\$18.94	1.2%
Total 2030 Year End	\$171.20	3.7%	\$168.58	3.6%
Total Bill Increase	\$55.02		\$52.40	

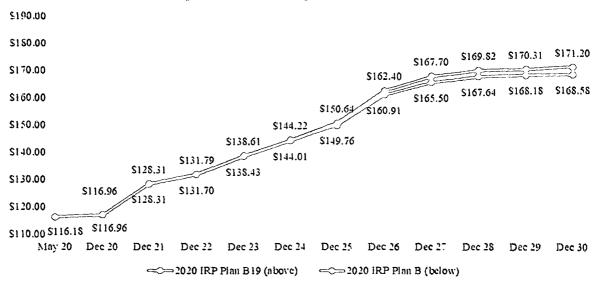
Notes: (1) Represents bill projections associated with future generation in Alternative Plan A: approved and proposed investments in demand-side management programs; approved investments in the Grid Transformation Plan (i.e. Phase IA and IB); investments in the Strategic Underground Program; and compliance with environmental laws and regulations, including coal combustion residuals investments. (2) Represents bill projections associated with future generation in Alternative Plan B or B<sub>19</sub>, as applicable, and other investments incentivized or mandated by legislation prior to 2020, including legislation related to pumped storage (2017), the GTSA (2018), and rural broadband (2019). (3) Represents bill projections associated with future generation in Alternative Plan B or B<sub>19</sub>, as applicable, and other investments incentivized or mandated by the VCEA and other 2020 legislation.

Based on DEV's Residential Bill Analysis, the monthly bill of a Virginia residential customer using 1,000 kWh per month is projected to be \$168.58 for Plan B and \$171.20 for Plan B<sub>19</sub> by 2030, an increase of between \$52.40 and \$55.02 per month over the May 1, 2020, typical residential bill of \$116.18 (or an estimated annual increase of \$628.80 to

<sup>&</sup>lt;sup>5</sup> See 2020 IRP May 14, 2020 Supplement ("2020 IRP Supplement") at page 5.

\$660.24).<sup>6</sup> The following chart shows the projected monthly residential bills for each year from 2020 through 2030 as presented in DEV's Residential Bill Analysis.<sup>7</sup>

Chart 1
DEV Residential Billing Analysis
Projected Monthly Bills 2020-2030



While the Company did not include Plans C or D in its Residential Bill Analysis, the Company indicated that Plans B and C are the same for the first 10 years, making the projected bill analysis for Plan C substantially the same as for Plan B. Likewise, the Company indicated that Plans B<sub>19</sub> and D are the same for the first 10 years, making the projected bill analysis for Plan D substantially the same as for Plan B<sub>19</sub>.

<sup>&</sup>lt;sup>6</sup> Plans B and B<sub>19</sub> assume solar capacity factors of 25% and 19%, respectively, but otherwise use the same assumptions. See 2020 IRP Supplement at page 1 (May 14, 2020).

<sup>&</sup>lt;sup>7</sup> See 2020 IRP Revised Public Version of Virginia Addendum 1 (June 3, 2020) and 2020 IRP Supplement, Plan B at page 2 of 2, and Plan B<sub>19</sub> at page 2 of 2 (May 14, 2020).

<sup>&</sup>lt;sup>8</sup> See the response to Staff Interrogatory Set 2, Question No. 43 included in Appendix B to my testimony.

## Q. PLEASE DESCRIBE HOW THE COMPANY'S RESIDENTIAL BILL ANALYSIS IS CALCULATED.

A. The Company's Residential Bill Analysis is a comprehensive analysis of residential bill impacts from 2020 through 2030 as required by the Commission's March 9, 2020 Order. In order to present a comprehensive analysis, the Company projected numerous lifetime revenue requirements for both new and existing capital investments based on Plans A, B, and B<sub>19</sub> as well as fuel and purchased power costs. The Company also projected Virginia jurisdictional allocation factors, residential allocation factors, and residential kWh sales. These assumptions were then manually input into a complex model ("Bill Model") designed by the Company to calculate numerous projected residential monthly bill impacts. The Company's Bill Model combines these bill impacts with existing base rates to produce the total projected residential monthly bills for each year from 2020 through 2030.

## Q. BEFORE CONTINUING, PLEASE BRIEFLY EXPLAIN HOW A RESIDENTIAL BILL IMPACT IS CALCULATED.

A. As explained above, numerous projected residential monthly bill impacts are included in the Company's Bill Model to produce the Residential Bill Analysis. To illustrate the assumptions required to calculate a residential bill impact, Staff prepared the following table showing a simplified calculation. Based on the simplified assumptions shown in

<sup>&</sup>lt;sup>9</sup> The Residential Billing Analysis presents residential monthly bills for a typical customer using 1,000 kWh as of December 31, 2020 through 2030. As directed by the Commission, the Company included projected costs for generation, transmission, and distribution services based upon Plans A, B, and B<sub>19</sub>.

Table 1 below, a total revenue requirement of \$100 million translates to a residential monthly bill impact for a typical customer using 1,000 kWh of \$1.49.

Table 3
Simplified Calculation of
Residential Monthly Bill Impact

Revenue Requirement	\$100,000,000
x Virginia Jurisdictional Allocation %	80.00%
Virginia Jurisdictional Revenue Requirement	\$80,000,000
x Residential Allocation %	55.00%
Residential Revenue Requirement	\$44,000,000
/ Annual Residential kWh	29,500,000,000
Residential rate per kWh	\$0.00149
x 1,000 Kilowatt-hours per month	1,000
Residential Monthly Bill Impact	\$1.49
	•

Any bill impact calculation begins with an underlying total annual revenue requirement to be recovered from the Company's customers. This simplified example assumes a total annual revenue requirement of \$100 million. Virginia jurisdictional and residential allocation factors are then applied to the total revenue requirement to arrive at a revenue requirement of \$44 million for the Virginia residential class. The residential class revenue requirement is then divided by annual residential class kWh sales to calculate a residential rate per kWh. This residential rate per kWh is then multiplied by 1,000 kWh to arrive at a monthly bill impact of \$1.49 for a typical residential customer using 1,000 kWh per month.

<sup>&</sup>lt;sup>10</sup> Said another way, a revenue requirement represents the amount of revenues the Company must collect from its customers to recover a cost of providing utility service.

## O. DID STAFF REVIEW THE COMPANY'S RESIDENTIAL BILL ANALYSIS?

A. Yes. Staff conducted a thorough review of the Company's Residential Bill Analysis, including a review of the mechanics of the Company's complex Bill Model and the underlying inputs and assumptions. The objective of Staff's review was to determine whether the projected monthly bills presented in the Company's Residential Bill Analysis are a reasonable approximation of the cost to a typical residential customer of Plans A, B, and B<sub>19</sub> as modeled by the Company. To be clear, to the extent that a least cost plan is modeled in a manner that differs from Plan A or the VCEA is modeled in a manner than differs from Plans B or B<sub>19</sub>, the resulting costs to a typical residential customer would also differ, thereby requiring a new Residential Bill Analysis. Thus, Staff is in no way saying that the Residential Bill Analysis of Plans B or B<sub>19</sub> represents the definitive cost to a typical residential customer of the VCEA or that the Residential Bill Analysis of Plan A represents the definitive cost to a typical residential customer of a least cost plan. 11

## Q. DOES STAFF HAVE CONCERNS REGARDING THE ASSUMPTIONS INCLUDED IN THE COMPANY'S RESIDENTIAL BILL ANALYSIS?

A. Yes. Generally speaking, Staff does not take issue with the calculation of the projected lifetime revenue requirements or fuel and purchased power costs underlying the Residential Bill Analysis, as they appear to be generally consistent with Plans A, B, and B<sub>19</sub>. Staff

<sup>&</sup>lt;sup>11</sup> For example, the Residential Bill Analysis provides an estimate of the costs that a typical residential customer would have to pay for the Company's identified future build plans that reflect how the Company intends to comply with the VCEA. As discussed by Staff witness Dalton, the Company may not have identified a least-cost plan that is able to meet the requirements of the VCEA. Therefore, actual future bill impacts of complying with the VCEA could be lower.

does, however, have concerns that the projected residential allocation factors and kWh sales used in the Residential Bill Analysis appear to understate the cost to a typical residential customer of Plans A, B, and B<sub>19</sub>. As discussed in greater detail below, this is because the Company's projected residential allocation factors, which are based on its internal load forecast, decline to a low of 49.12% by 2030, which is significantly lower than actual residential allocation factors over the last ten years, which average 55.85%. To provide a more realistic estimate of the cost to a typical residential customer of Plans A, B, and B<sub>19</sub> based on how costs are assigned to the residential customer class today, Staff used the Bill Model to recalculate the Residential Bill Analysis using the residential allocation factor of 55.26% actually proposed by the Company for use in setting rates in recent 2020 RAC proceedings.

## Q. PLEASE PRESENT THE RESULTS OF STAFF'S RECALCULATED RESIDENTIAL BILL ANALYSIS.

A. Based on Staff's recalculated Residential Bill Analysis, the monthly bill of a residential customer using 1,000 kWh per month is projected to be \$180.45 for Plan B and \$183.50 for Plan B<sub>19</sub> by 2030, an increase of between \$64.27 and \$67.32 per month over the May 1, 2020 typical residential bill of \$116.18 (or an estimated annual increase of \$771.24 to \$807.84). The following table compares the results of Staff's and the Company's Residential Bill Analyses as of 2030:

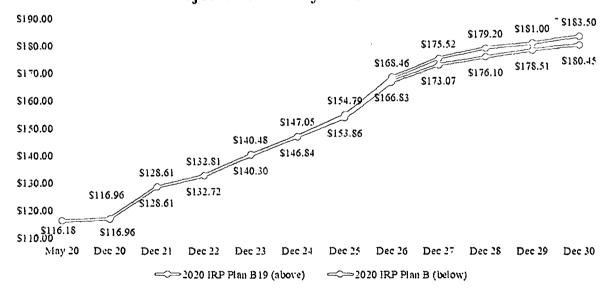
<sup>&</sup>lt;sup>12</sup> As discussed further below, Staff also has some comments on the Company's assumptions regarding base rates and jurisdictional allocation factors, among other things.

Table 4
Comparison of Staff and Company Residential Bill Analyses (1,000 kWh per month)

	Plan B <sub>19</sub>		Plan B	
	Staff	Company	Staff	Company
May 1, 2020	\$116.18	\$116.18	\$116.18	\$116.18
Plan A	\$24.70	\$18.18	\$24.70	\$18.18
Pre-2020 Legislation	\$16.57	\$15.01	\$16.84	\$15.28
2020 Legislation	\$26.05	\$21.83	\$22.73	\$18.94
Total 2030 Year End	\$183.50	\$171.20	\$180.45	\$168.58
Total Bill Increase	\$67.32	\$55.02	\$64.27	\$52.40
Difference	\$1	2.30	\$1	1.87

The following chart shows the projected monthly residential bills for each year from 2020 through 2030 as presented in Staff's recalculated Residential Bill Analysis:<sup>13</sup>

Chart 2
Staff Residential Billing Analysis
Projected Monthly Bills 2020-2030



<sup>&</sup>lt;sup>13</sup> Additional details on Staff's recalculated Residential Billing Analysis are included in Appendix A to my testimony.

### Residential Allocation Factors

## Q. PLEASE EXPLAIN THE COMPANY'S USE OF PROJECTED RESIDENTIAL ALLOCATION FACTORS IN GREATER DETAIL.

A. In order to project residential allocation factors and kWh sales for use in the Residential Bill Analysis, the Company relied upon its internal load forecast for the Virginia jurisdiction for 2020 through 2035. The Company's internal load forecast produces a compound annual growth rate ("CAGR") of 1.7% for the Virginia jurisdiction as a whole and a CAGR of 0.4% for the residential class for each year from 2022 through 2030. <sup>14</sup> In other words, the Company's internal load forecast assumes that the Virginia jurisdiction as a whole will grow at a faster pace than the residential class. According to the Company, this is due to the fact:

Overall sales are anticipated to grow faster than sales to the residential class because of projected data center growth. In addition, incremental residential sales growth is mostly driven by new single family homes. Single family home growth over the recent 12-month period has been modest and is expected to remain so in the foreseeable future....<sup>15</sup>

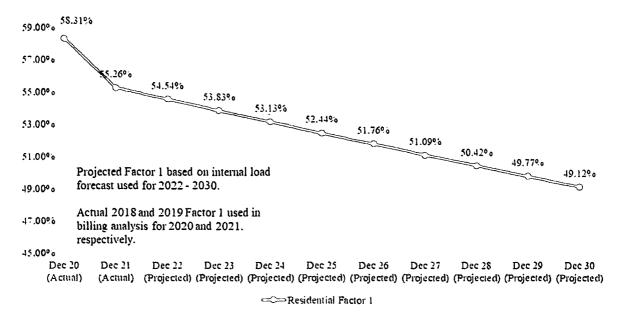
<sup>&</sup>lt;sup>14</sup> The internal load forecast produces a CAGR of 2.5% for the GS-4 customer class.

<sup>&</sup>lt;sup>15</sup> See the response to Staff Interrogatory Set 16, Question No. 156 included in Appendix B to my testimony. Additionally, see the responses to Staff Interrogatory Set 16, Question Nos. 153, 154, and 155 and Staff Informal Data Requests Set 5, Question Nos. 1 and 2 included in Appendix B to my testimony.

## Q. HOW DOES ASSUMING LOWER GROWTH FOR THE RESIDENTIAL CLASS COMPARED TO THE VIRGINIA JURISDICTION AS A WHOLE IMPACT THE RESIDENTIAL BILL ANALYSIS?

A. This assumption results in the use of declining residential cost allocation factors from 2022 through 2030 in the Residential Bill Analysis. Said another way, if the residential customer class experiences slower growth than the Virginia jurisdiction as a whole, the residential customer class would be assigned a smaller portion of the Virginia jurisdictional costs through the use of declining residential allocation factors. The following chart illustrates the declining residential allocation factors included in the Company's Residential Bill Analysis based upon its internal load forecast:

Chart 3
Company Projected Residential Factor 1
Used in Residential Billing Analysis
December 2020 - 2030



The majority of the costs in the Residential Bill Analysis are assigned to the residential class using Factor 1. As shown in the chart above, the Company used the actual

Factor 1 used to set rates in its 2019 RAC proceedings for 2020<sup>16</sup> and the actual Factor 1 proposed to be used to set rates in its 2020 RAC proceedings for 2021.<sup>17</sup> Then beginning in 2022, the Company used projected declining residential allocation factors based on its internal load forecast. These factors decline from 54.54% in 2022 to 49.12% by 2030. The Company also projected residential kWh sales based on the same residential CAGR from its internal load forecast.

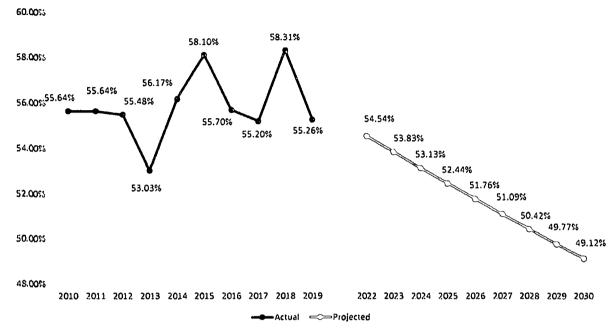
- Q. DOES STAFF BELIEVE THAT THE USE OF DECLINING RESIDENTIAL ALLOCATION FACTORS UNDERSTATES THE CUSTOMER BILL IMPACTS PRESENTED IN THE COMPANY'S RESIDENTIAL BILL ANALYSIS?
- A. Yes. The use of residential allocation factors that decline to a low of 49.12% by 2030 is far out of line with historical residential allocation factors used to set rates over the last decade. The following chart presents a comparison of residential Factor 1 based on actual data from 2010 through 2019 and the Company's projections from 2022 through 2030:18

<sup>&</sup>lt;sup>16</sup> Based on actual data as of December 31, 2018.

<sup>&</sup>lt;sup>17</sup> Based on actual data as of December 31, 2019.

<sup>&</sup>lt;sup>18</sup> See the response to Staff Interrogatory Set 2, Question No. 40 for support for the historical residential allocation factors shown below.

Chart 4
Comparison of Actual and Projected
Residential Allocation Factor 1



As shown above, residential Factor 1 fluctuated from year to year and ranged from a high of 58.31% in 2018 to a low of 53.03% in 2013, with an average over the ten-year period of 55.85%. Based on this long-term data, Staff does not have confidence in the use of projected residential allocation factors declining to 49.12% by 2030, nearly 7 percentage points below the historical ten-year average of 55.85%. Staff is concerned that these projected residential allocation factors are unrealistic and understate the residential bill impacts of Plans A, B, and B<sub>19</sub>.<sup>19</sup>

Based on the foregoing, rather than the Company's internal load forecast, the Commission directs that, for purposes of its corrected 2018 IRP, the Company shall utilize the Dominion Zone PJM coincident peak load forecast and energy sales forecast, scaled down to the Dominion load serving

<sup>&</sup>lt;sup>19</sup> The Commission addressed the use of the Company's internal load forecast for purposes of forecasting capacity and energy in the Company's 2018 IRP. Specifically, in its December 7, 2018 Order in the 2018 IRP, the Commission found that:

- Q. INSTEAD OF THE COMPANY'S PROJECTIONS, WHAT RESIDENTIAL ALLOCATION FACTORS DOES STAFF USE IN ITS RECALCULATED RESIDENTIAL BILL ANALYSIS?
- A. Staff uses residential allocation factors and kWh sales most recently proposed by the Company for purposes of setting RAC rates. For example, Staff used the 2019 residential Factor 1 of 55.26%, which Dominion is currently proposing to use to set rates in pending Riders R, S, B, W, and GV filed with the Commission on June 1, 2020, for the majority of the costs included in Staff's Residential Bill Analysis.<sup>20</sup> Staff believes that this allocation factor is in line with the historical average for the last ten years and provides a more realistic estimate of the cost to a typical residential customer of Plans A, B, and B<sub>19</sub> based on how costs are assigned to the residential customer class today.<sup>21</sup> As shown in Table 4 above, Staff's recalculated Residential Bill Analysis increases the monthly bill of a typical

entity level, consistent with the methodology presented by Staff witness White, as further modified below.

See 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, 2018 S.C.C. Ann. Rept. 417, Order (Dec. 7, 2018).

<sup>&</sup>lt;sup>20</sup> See, e.g., Application of Virginia Electric and Power Company, For revision of rate adjustment clause: Rider S, Virginia City Hybrid Energy Center, Case No. PUR-2020-00102 ("2020 Rider S Proceeding"). In the 2020 Rider S Proceeding, the Company's proposed residential allocation factor is included in the direct testimony of Emilia L. Catron.

<sup>&</sup>lt;sup>21</sup> Staff acknowledges that the PJM load forecast that the Commission directed the Company to use in its December 7, 2018 Order in the 2018 IRP for forecasting capacity and energy is not available at a class level for use in the Residential Billing Analysis (see the response to Staff Interrogatory Set 20, Question No. 185 included in Appendix B to my testimony). This further supports Staff's proposed use of recent actual residential allocation factors in the Residential Billing Analysis, which appear to be more realistic than the Company's projections based on its internal load forecast.

residential customer using 1,000 kWh by an additional \$12.30 (or 22.4%) for Plan B<sub>19</sub> and \$11.87 (22.7%) for Plan B as compared to the Company's Residential Bill Analysis.<sup>22</sup>

## Base Rate Assumptions

- Q. DOES STAFF HAVE ANY COMMENTS REGARDING THE BASE RATE
  ASSUMPTIONS MADE BY THE COMPANY FOR THE RESIDENTIAL BILL
  ANALYSIS?
- A. Yes. The Company assumed that base rates for generation and distribution services will remain unchanged from their current level through 2030 by projecting a monthly bill impact of \$61.82 for a typical residential customer using 1,000 kWh for each year from 2020 through 2030. While Staff did not make an adjustment to this assumption in the Residential Bill Analysis, it is important to point out that Staff views this as a simplifying assumption only. Said another way, this in no way means that customers will not see impacts to their monthly bills resulting from the Company's base rate costs through 2030. In reality, base rate costs can, and likely will, impact customers' bills in a variety of ways during the period covered by the Residential Bill Analysis.

<sup>&</sup>lt;sup>22</sup> Staff's use of historical residential allocation factors to project residential revenue requirements in the Residential Billing Analysis is consistent with the Company's own longstanding practice for estimating lifetime revenue requirements by class as required by Schedule 46 of the Commission's Rules Governing Utility Rate Applications and Annual Informational Filings. See, e.g., Schedule 46 C, Statement 2 – Annual Revenue Requirement by Year and Class for Duration of RAC from the 2020 Rider S Proceeding.

## Q. PLEASE EXPLAIN HOW BASE RATE COSTS COULD IMPACT CUSTOMERS' BILLS.

A. Under current law, the outcomes of the triennial reviews of Dominion's base rates pursuant to § 56-585.1 A of the Code of Virginia ("Code") will determine the impact of base rate costs on customers' bills during the period covered by the Residential Bill Analysis.<sup>23</sup> In these proceedings, the Commission will conduct two statutorily inter-related, dependent analyses: (1) a historical review of base rate costs, revenues, and a resulting earned return on equity ("ROE") for the combined test periods under review ("Earnings Test"); and (2) a going-forward analysis of the Company's base rates ("Going Forward Analysis").

In the Earnings Test, costs included in base rate cost of service will have a direct impact on Dominion's base rate earned ROE. This earned ROE will determine the magnitude of any refunds due to customers on their bills as a result of the triennial review Earnings Test. Also, should the Company elect to use the customer credit reinvestment offset ("CCRO") to offset refunds due to customers pursuant to Code § 56-585.1 A 8 d, the base rate earned ROE in the Earnings Test will also impact the magnitude of capital investments in solar, wind, and distribution grid transformation projects recognized as a CCRO. This will impact customers' bills because, to the extent the Company elects to use the CCRO, the Company will have fewer potential capital expenditures to recover from customers in the future through RACs or base rates. Further, because the results of the

<sup>&</sup>lt;sup>23</sup> In accordance with changes to Code §§ 56-585.1 and 56-585.1:1 made by the 2018 Grid Transformation and Security Act, after the conclusion of the Transitional Rate Period on December 31, 2016, reviews of DEV's rates for generation and distribution services shall resume in 2021, "utilizing the four successive 12-month test periods beginning January 1, 2017, and ending December 31, 2020." All other reviews that will occur after the end of the transitional rate period encompass three test periods. While four successive test periods compose the DEV 2021 review, Code § 56-585.1 as amended by SB 966 requires, "All such reviews occurring after December 31, 2017, shall be referred to as triennial reviews."

Earnings Test determine the Commission's ability under the Code to change base rates going-forward based on a Going Forward Analysis, costs included in the base rate cost of service and their resulting impact on the base rate earned ROE in the Earnings Test can have impacts on customers' bills going forward.

## Q. IS STAFF AWARE OF SIGNIFICANT GENERATION-RELATED COSTS THAT WILL IMPACT THE BASE RATE COST OF SERVICE IN THE UPCOMING 2021 TRIENNIAL REVIEW?

A. Yes. In March 2019, DEV announced immediate retirement of 11 base rate fossil fuel-fired generating units as well as the retirement of an additional fossil fuel-fired generating unit in 2021.<sup>24</sup> As a result of these early retirement determinations, DEV recognized the remaining value of the generating units as period costs on its books in 2019 in the amount of \$263.7 million on a Virginia jurisdictional basis.<sup>25</sup> DEV also recorded significant additional costs associated with early retirements of base rate fossil fuel-fired generating facilities in the first quarter of 2020. Specifically, these costs total \$630.7 million on a Virginia jurisdictional basis and are associated with the announced early retirement of Chesterfield Power Station Units 5 and 6 (coal) and Yorktown Power Station Unit 3 (oil).<sup>26</sup> In total between 2019 and 2020, DEV recognized \$894.4 million of costs related to the

<sup>&</sup>lt;sup>24</sup> Specifically, DEV announced the immediate retirement of Possum Point Units 3 and 4 (natural gas); Bremo Units 3 and 4 (natural gas); Chesterfield Units 3 and 4 (coal); Mecklenburg Units 1 and 2 (coal); Bellemeade Units 1 and 2 (natural gas); and Pittsylvania Unit 1 (wood). DEV also announced the early retirement of Possum Point Unit 5 (oil) to occur in 2021.

<sup>&</sup>lt;sup>25</sup> See the response to Staff Interrogatory Set 2, Question No. 44 included in Appendix B to my testimony.

<sup>&</sup>lt;sup>26</sup> See the response to Staff Interrogatory Set 2, Question No. 45 included in Appendix B to my testimony.

retirement of these legacy fossil fuel-fired units.<sup>27</sup> These are examples of significant base rate costs that are not captured in the Company's Residential Bill Analysis because of the simplifying assumption that base rates remain unchanged through 2030. Nonetheless, these very significant costs will be recovered from customers in one way or another and will likely impact potential customer refunds, CCROs, and going-forward base rates determined by the Commission in the 2021 triennial review as described above.<sup>28</sup>

## Other Assumptions

## Q. DO YOU HAVE ANY OTHER COMMENTS ON THE ASSUMPTIONS MADE BY THE COMPANY IN THE RESIDENTIAL BILL ANALYSIS?

A. Yes. As explained above, the Company's Residential Bill Analysis relies upon numerous, complex projections of lifetime revenue requirements (including underlying projections of capital costs, financing costs, and operations and maintenance ("O&M") expenses), fuel and purchased power costs, Virginia jurisdictional allocation factors, etcetera. To the extent that actuals differ from the Company's projections, the actual costs that typical residential customers will pay on their monthly bills will also differ.

<sup>&</sup>lt;sup>27</sup> During 2019, DEV also recognized approximately \$144.8 million as base rate costs on a Virginia jurisdictional basis associated with the early retirement of its automated meter reading electric distribution service meters. See the response to Staff Interrogatory Set 2, Question No. 46 included in Appendix B to my testimony.

<sup>&</sup>lt;sup>28</sup> Pursuant to Code § 56-585.1 A 8 a, the Commission may not order a going-forward base rate increase for Dominion in the 2021 triennial review. Pursuant to Code § 56-585.1 A 8 c, any reduction to going-forward base rates for Dominion in the 2021 triennial review shall not exceed \$50 million in annual revenues.

## Q. COULD THE VIRGINIA JURISDICTIONAL ALLOCATION FACTOR FOR CERTAIN COSTS DIFFER FROM THE COMPANY'S ASSUMPTIONS IN THE RESIDENTIAL BILL ANALYSIS?

A. Yes. For purposes of allocating total Company revenue requirements to the Virginia jurisdiction, the Company used a historical Virginia jurisdictional Factor 1 of approximately 80%.<sup>29</sup> This historical Factor 1 assumes that costs will be recovered from North Carolina customers as they have been in the past. However, the VCEA contains a provision, codified as Code § 56-585.5 F, which states that:

If a Phase I or Phase II Utility serves customers in more than one jurisdiction, such utility shall recover all of the costs of compliance with the RPS Program requirements from its Virginia customers through the applicable cost recovery mechanism, and all associated energy, capacity, and environmental attributes shall be assigned to Virginia to the extent that such costs are requested but not recovered from any system customers outside the Commonwealth.

To the extent a cost covered by this statutory language is not recovered from North Carolina customers, the Virginia jurisdictional allocation factor applied to that cost would be higher than the 80% assumed in the Company's Residential Bill Analysis, thereby increasing the associated monthly bill impact to a typical residential customer. For example, if Virginia jurisdictional customers bear 100% of a cost not recovered from North Carolina customers, the Virginia jurisdictional allocation factor applied to that cost could be as high as approximately 85%.

<sup>&</sup>lt;sup>29</sup> Unlike its use of projected residential allocation factors based on its internal load forecast, the Company used historical Virginia jurisdictional allocation factors in its Residential Bill Analysis.

## Q. ARE THERE OTHER EXAMPLES OF HOW ACTUALS COULD DIFFER FROM THE COMPANY'S ASSUMPTIONS?

- A. Yes. The following are some other examples of how actuals could differ from the Company's assumptions in the Residential Bill Analysis:
  - As Staff witness White addresses, the 2020 IRP assumes that Dominion will
    continue to participate in the PJM capacity market and receive associated capacity
    revenues. As such, the Residential Bill Analysis assumes that projected capacity
    revenues will offset, or reduce, the Company's revenue requirement for associated
    generating resources. If the Company were to no longer participate in the PJM
    capacity market, it could impact the Residential Bill Analysis.
  - The fuel and purchased power costs included in the Residential Bill Analysis are based on the Company's fuel forecast, including the Company's underlying forecasts of commodity prices, PJM market purchases, and power purchase agreement ("PPA") costs. The fuel and purchased power costs modeled and included in the Residential Bill Analysis for Plans B and B<sub>19</sub> include the impact of significant fuel savings and reduced PPA costs as compared to Plan A. To the extent that actual fuel and purchased power costs differ from the Company's forecast, the monthly bill impact to a typical residential customer could increase or decrease.
  - The capital investments and O&M expenses for Company-build resources are based upon the Company's projections. To the extent that actual capital investments and O&M expenses incurred by the Company differ from the Company's projections, the monthly bill impact to a typical residential customer could increase or decrease.
  - Financing costs (i.e., interest expense and ROE) calculated for capital investments in Company-build resources are based upon the Company's current capital structure, cost of debt, and currently authorized ROE of 9.20%. To the extent the capital structure, cost of debt, or ROE change in the future, the monthly bill impact to a typical residential customer could increase or decrease.

## Q. DO YOU HAVE ANY COMMENTS ON THE ASSUMED USAGE OF 1,000 KWH PER MONTH FOR A TYPICAL RESIDENTIAL CUSTOMER?

A. Yes. A key assumption in the Residential Bill Analysis is monthly usage for a typical residential customer of 1,000 kWh. It is longstanding Commission practice to use 1,000

kWh of monthly usage to calculate residential customer bill impacts, which provides for consistency and comparability over time. Recent monthly usage for the average residential customer is generally higher than 1,000 kWh, as shown in the following table:<sup>30</sup>

Table 5
Residential Class Average Monthly Usage
For 2015 – 2019

Year	Residential <u>Bills</u>	Residential <u>Total kWh</u>	Residential Average Usage
2015	25,807,456	29,265,953,000	1,134
2016	26,078,517	28,624,379,996	1,098
2017	26,354,006	28,021,965,999	1,063
2018	26,645,871	30,409,802,002	1,141
2019	26,935,671	29,801,055,999	<u>1,106</u>
Average 2015-2019			1,108

While monthly bills of individual residential customers vary based on each individual customer's usage, the Residential Bill Analysis presents customer bill impacts based on a conservative assumption of 1,000 kWh of monthly usage per customer compared to the average usage of 1,108 kWh per month over the past five years. Staff witness Abbott further addresses customer usage and the impact of energy efficiency on customer bills in his testimony.

<sup>&</sup>lt;sup>30</sup> See the response to Staff Interrogatory Set 2, Question No. 47 included in Appendix B to my testimony.

## GS-1 and GS-4 Bill Analysis

## Q. HAS STAFF CALCULATED BILL ANALYSES FOR SMALL AND LARGE GENERAL SERVICE CUSTOMERS?

A. Yes. While the Commission's March 9, 2020 Order in this proceeding only required the Company to prepare a Residential Bill Analysis, the Commission's recent July 10, 2020 Order Establishing 2020 RPS Proceedings required Dominion to provide "examples of bill impacts for small general service customers, and examples of bill impacts for large general service customers" for the Company's proposed renewable portfolio standard program. As a result, Staff used the Company's Bill Model to run a GS-1 Bill Analysis and a GS-4 Bill Analysis for Plans A, B, and B<sub>19</sub> to further develop the record in this proceeding. 32

The following table summarizes the results of Staff's GS-1 and GS-4 Bill Analyses:<sup>33</sup>

<sup>&</sup>lt;sup>31</sup> See Commonwealth of Virginia, ex rel. State Corporation Commission, Ex Parte: Establishing 2020 RPS Proceeding for Virginia Electric and Power Company, Case No. PUR-2020-00134, Doc. Con. Cen. No. 200710234, Order Establishing 2020 RPS Proceedings (July 10, 2020).

<sup>&</sup>lt;sup>32</sup> In these analyses, Staff used recent GS-1 and GS-4 class allocation factors and sales and demand used to set rates in recent RAC proceedings, consistent with the residential class allocation factors used in Staff's recalculated Residential Bill Analysis discussed above.

<sup>33</sup> Additional details on Staff's GS-1 and GS-4 Bill Analyses are included in Appendix A to my testimony.

Table 6
Summary of Staff's GS-1 and GS-4 Bill Analyses

	GS-1 <sup>1</sup>		GS-4P <sup>2</sup>	
	Plan B <sub>19</sub>	Plan B	Plan B <sub>19</sub>	Plan B
May 1, 2020	\$536.13	\$536.13	\$311,302	\$311,302
Plan A	\$148.69	\$148.69	\$103,464	\$103,464
Pre-2020 Legislation	\$78.46	\$80.08	\$29,595	\$31,215
2020 Legislation	\$125.05	\$108.31	\$55,596	\$45,920
Total 2030 Year End	\$888.33	\$873.21	\$499,957	\$491,901
Total Bill Increase	\$352.20	\$337.08	\$188,655	\$180,599

<sup>&</sup>lt;sup>1</sup>GS-1 Bill Analysis assumes monthly usage of 6,000 kWh

## II. 2020-2035 PROJECTED CAPITAL INVESTMENTS

## Q. PLEASE DISCUSS RECENT DOMINION ENERGY, INC., PRESENTATIONS TO INVESTORS AS THEY RELATE TO THE 2020 IRP.

A. As the Commission recently reported in its August 18, 2020 Status Report on the Implementation of the Virginia Electric Utility Regulation Act Pursuant to § 56-596 B of the Code of Virginia, Dominion Energy, Inc., made a presentation to investors in May 2020.<sup>34</sup> This May 5, 2020 investor presentation identified total potential DEV capital investments of \$50 to \$59 billion through 2035, which could increase DEV's total system net rate base by as much as 246% compared to the net rate base on December 31, 2019 of \$24 billion.<sup>35</sup> On July 5, 2020, Dominion Energy, Inc., made an additional investor update

<sup>&</sup>lt;sup>2</sup> GS-4P Bill Analysis assumes monthly usage of 6,000,000 kWh and monthly demand of 10,000 KW

<sup>&</sup>lt;sup>34</sup> https://s2.q4cdn.com/510812146/files/doc\_financials/2020/q1/2020-05-05-DE-IR-Q1-2020-earnings-call-slides-vTCIII.pdf.

<sup>35</sup> The Virginia jurisdictional portion of DEV's total system net rate base is approximately \$19.2 billion, or 80%.

presentation identifying \$47 billion of DEV investment in zero-carbon generation and storage resources from 2020 through 2035.<sup>36</sup> <sup>37</sup>

## Q. ARE THE CAPITAL INVESTMENTS IDENTIFIED IN THE INVESTOR PRESENTATIONS CONSISTENT WITH THE COMPANY'S 2020 IRP?

A. Generally speaking, yes. To demonstrate that the 2020 IRP was prepared in a manner that is consistent with capital investment plans presented to investors, DEV reconciled the capital investments included in both investor presentations to the 2020 IRP.<sup>38</sup> Both of these presentations are generally consistent with 2020 IRP Plan B.

## Q. PLEASE SUMMARIZE THE COMPANY'S CAPITAL INVESTMENT PLANS AS REFLECTED IN PLAN B OF THE 2020 IRP.

A. The following table, compiled by Staff based on numerous work papers provided by the Company supporting the Residential Bill Analysis, identifies the Company's 2020 through 2035 projected generation growth capital investments and associated total Company lifetime revenue requirements based on Plan B of the 2020 IRP:<sup>39</sup>

<sup>&</sup>lt;sup>36</sup> Zero-carbon generation and storage resources are defined in the July 5, 2020 investor update presentation to include wind, solar, battery, and nuclear re-licensing projects.

<sup>&</sup>lt;sup>37</sup> https://s2.q4cdn.com/510812146/files/doc\_presentations/2020/06/2020-07-05-DE-IR-investor-update-presentation-vTC.pdf

<sup>&</sup>lt;sup>38</sup> The reconciliation to the May 5, 2020 investor presentation provided informally to Staff is attached to my testimony in Appendix B. The reconciliation to the July 5, 2020 investor presentation was provided in response to Staff Interrogatory Set 16, Question No. 151 and is included in Appendix B to my testimony.

<sup>&</sup>lt;sup>39</sup> This information is compiled from work papers for the Residential Bill Analysis provided in response to Staff Informal Data Requests Set 1 and Set 2. Due to the voluminous nature of these responses, they are not attached to my testimony.

Table 7
Plan B Capital Investment Details
From 2020 - 2035
(In Billions of Dollars)

	Additional Generation	Projected Capital Investment	Lifetime Revenue Requirement
Offshore Wind Phase 1 - Stage 1	880 MW	\$2.64	\$6.17
Offshore Wind Phase 1 - Stage 2	880 MW	\$2.67	\$6.23
Offshore Wind Phase 1 - Stage 3	880 MW	\$2.70	\$6.16
Offshore Wind Phase 2	2,640 MW	\$9.18	\$18.57
Utility and Small Scale Solar Generic	10,375 MW	\$15.45	\$38.52
Pumped Storage	300 MW	\$2.89	\$9.78
Battery Storage	1,455 MW	\$3.93	\$5.69
Gas CTs	970 MW	\$0.62	\$1.90
Nuclear License Renewals		\$3.44	\$7.61
Total	18,380 MW	\$43.51	\$100.63

As the table above shows, Plan B includes \$43.5 billion of generation growth capital investment in solar, offshore wind, storage, gas combustion turbines, and nuclear license extensions. Collectively, these growth capital investments translate to a lifetime revenue requirement of \$100.6 billion on a total Company basis.<sup>40</sup> Plan B<sub>19</sub> is similar to Plan B, but includes additional solar investments of \$2.9 billion at an additional lifetime

<sup>&</sup>lt;sup>40</sup> The lifetime revenue requirement is an estimate of the all-in cost of the Company's projected growth capital investments in nominal dollars, including recovery of and a return on the capital investments over their useful lives and associated O&M expenses. The return on the capital investments includes both interest expense on debt financing and a return on equity (or profit margin) to the Company's shareholders. The lifetime revenue requirements presented herein exclude any potential offsetting decreases, such as PJM capacity revenues or fuel savings.

revenue requirement of \$7.2 billion to account for the lower 19% solar capacity factor modeled in Plan B<sub>19</sub> compared to the 25% solar capacity factor modeled in Plan B.

The July 5, 2020 investor presentation identified \$47 billion of investment in zero-carbon generation and storage resources from 2020 through 2035, for a difference of approximately \$3.5 billion as compared to the \$43.5 billion included in Plan B of the 2020 IRP. This is because the investor presentation included the Coastal Virginia Offshore Wind Project and US-3 and US-4 solar projects already approved by the Commission as well as certain investments in ring-fenced solar projects<sup>41</sup> that are not included in Plan B of the IRP.

## Q. DID THE COMPANY IDENTIFY ITS PROJECTED GROWTH CAPITAL FOR THE DISTRIBUTION AND TRANSMISSION FUNCTIONS?

A. Yes. The Company projects distribution capital investments of \$4.5 billion associated with the Strategic Undergrounding Program, the Grid Transformation Plan, and broadband projects from 2020 through 2030. The lifetime revenue requirement of the Company's projected distribution capital investments is \$13.4 billion on a total Company basis.

As to the transmission function, the Company's May 5, 2020 investor presentation included \$8 billion of projected growth capital investments. While the Company did include projected transmission revenue requirements in its Residential Bill Analysis as directed by the Commission, its projections were limited and did not include underlying lifetime revenue requirement calculations that correspond to the \$8 billion of projected

<sup>&</sup>lt;sup>41</sup> Ring fenced solar projects are projects that are recovered through a contractual agreement with a specific customer and not recovered from the general body of customers through rates.

capital investment. In total, Plan B of the 2020 IRP includes generation, transmission, and distribution growth capital investments of approximately \$56 billion.

## Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

APPENDICES

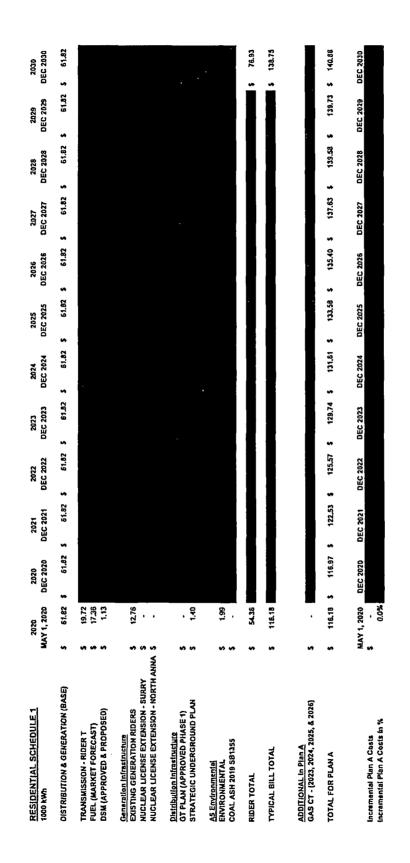
## Myers Appendix A Table of Contents

## Staff Bill Analysis Workpapers (Public Version - Extraordinarily Sensitive Information Redacted)

Residential Plan A	1
Residential Plan B <sub>19</sub>	2
Residential Plan B	4
GS-1 Plan A	6
GS-1 Plan B <sub>19</sub>	7
GS-1 Plan B	9
GS-4P Plan A	11
GS-4P Plan B <sub>19</sub>	12
GS-4P Plan B	14

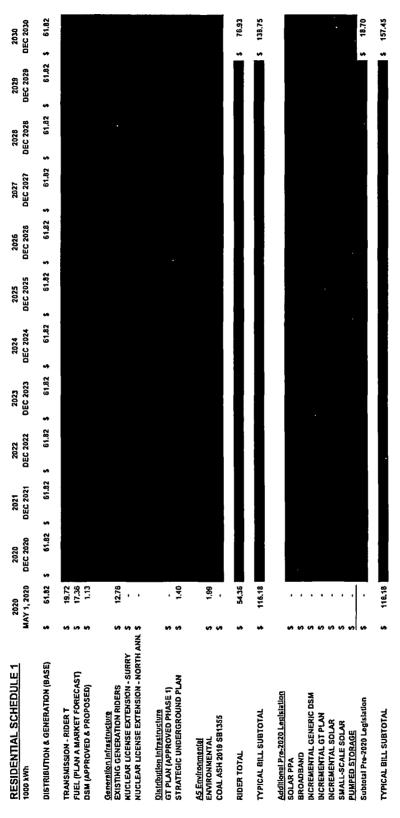
# Extraordinarily Sensitive Information Redacted

## Residential Plan A



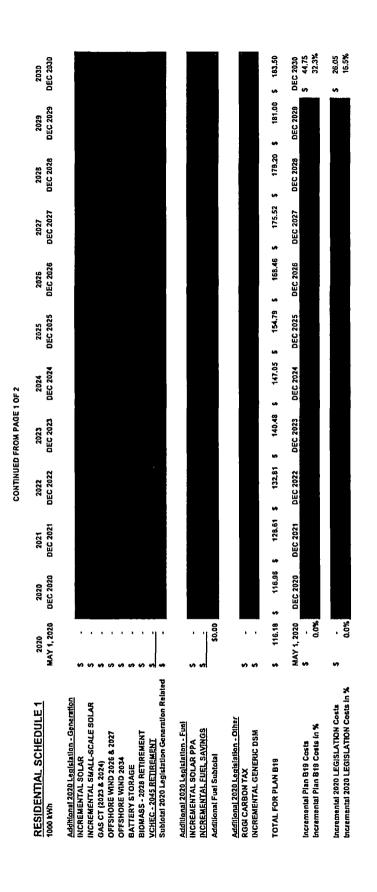
## Residential Plan B<sub>19</sub>

PAGE 1 OF 2



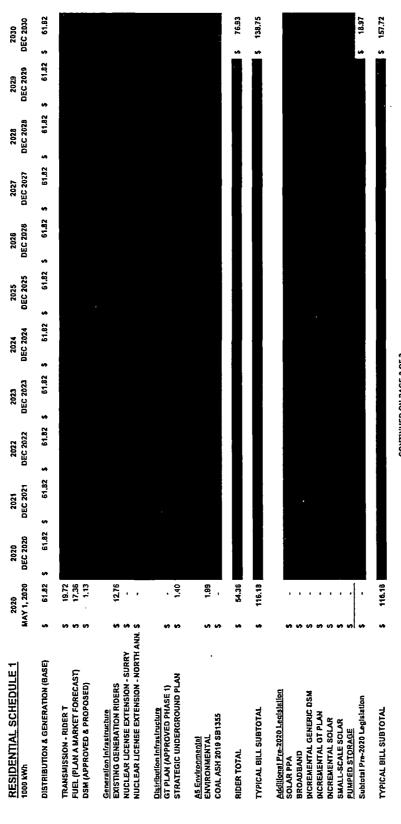
CONTINUED ON PAGE 2 OF 2

# Residential Plan B<sub>19</sub>



LEIGE SOOK

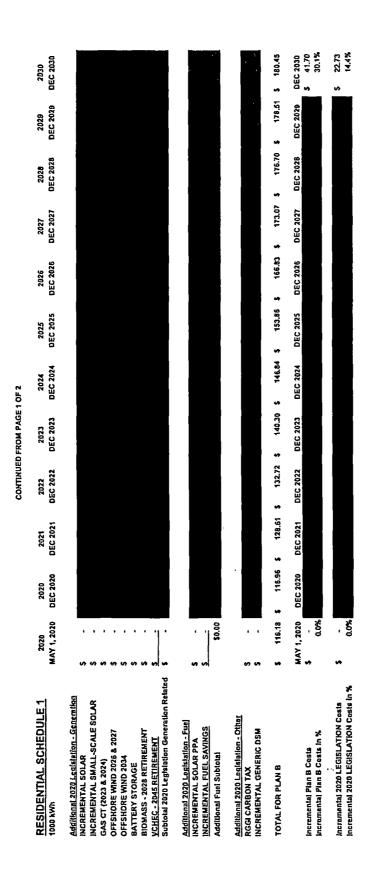
# Residential Plan B



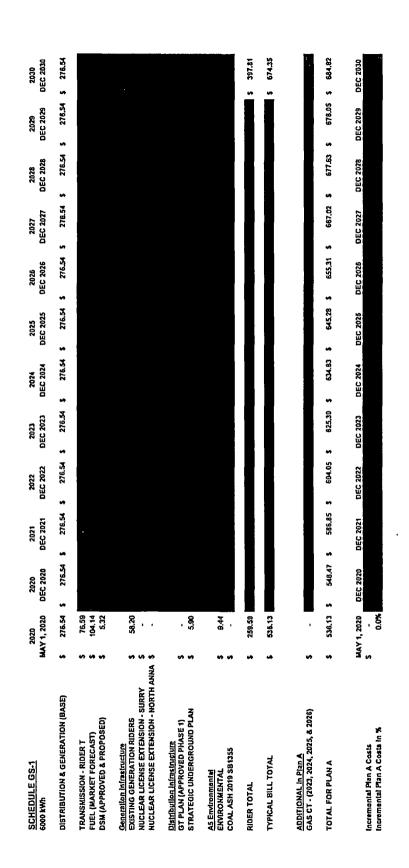
CONTINUED ON PAGE 2 OF 2

LETSENGO CZ

# Residential Plan B

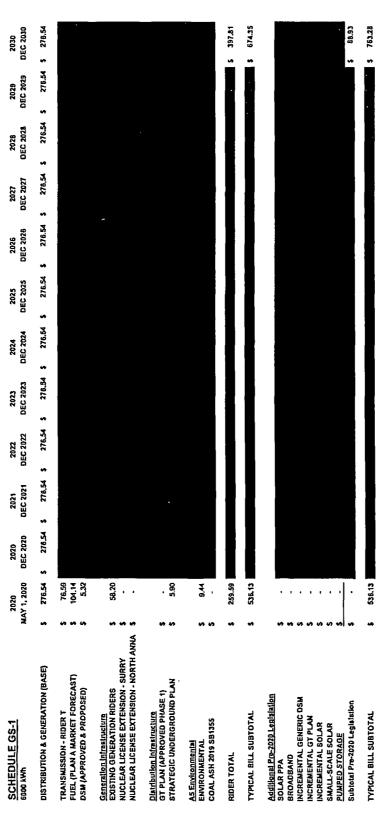


## GS-1 Plan A



# GS-1 Plan B<sub>19</sub>

PAGE 1 OF 2



CONTINUED ON PAGE 2 OF 2

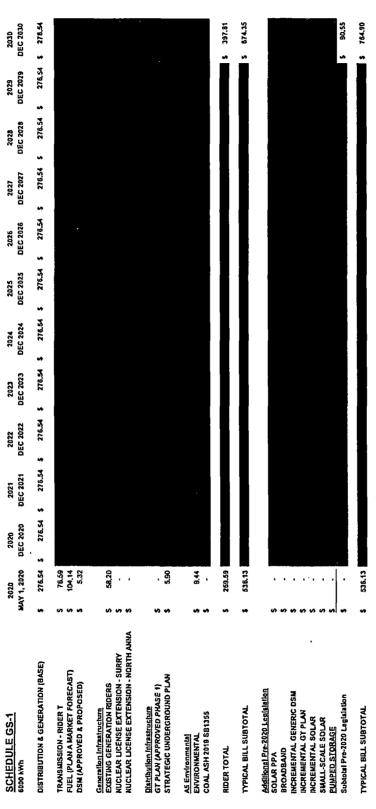
# GS-1 Plan B<sub>19</sub>

				CONTINUED	CONTINUED FROM PAGE 1 OF 2	0F2						
SCHEDULE GS-1	2020 MAY 1, 2020	2020 0 DEC 2020	2021 DEC 2021	2022 DEC 2022	2023 DEC 2023	2024 DEC 2024	2025 DEC 2025	2028 DEC 2026	2027 DEC 2027	2028 DEC 2028	2029 DEC 2029	2030 DEC 2030
Addikoni 2020 Legislation - Generation												
INCREMENTAL SULAR INCREMENTAL SMALL-SCALE SOLAR	, ,	,										
GAS CT (2023 & 2024)	,											
OFFSHORE WND 2026 & 2027	•											
OFFSHORE WIND 2034	•											
BATTERY STORAGE	•											
BIOMASS - 2028 RETIREMENT												
VCHEC - 2045 RETIREMENT												•
Subtotal 2020 Legislation Generation Related	· •											
Additional 2020 Legislation - Fuel												
INCREMENTAL SOLAR PPA	•											
INCREMENTAL FUEL SAVINGS	,											
Additional Fuel Subtotal	\$0.00	8										
Additional 2020 Legislation - Other												
RGGI CARBON TAX	•											
INCREMENTAL GENERIC DSM	'n											
TOTAL FOR PLAN B18	\$ 536.13 \$	3 \$ 548.47 \$	\$ 616.75 \$	\$ 538,63 \$	\$ 676.36 \$	\$ 709.14	709.14 \$ 747.42 \$	\$ 815.49 \$	\$ 848.83 \$	\$ 867.44 \$		876.14 \$ 888.33
	MAY 1, 2020	0 DEC 2020	DEC 2021	DEC 2022	DEC 2023	DEC 2024	DEC 2025	DEC 2028	DEC 2027	DEC 2028	DEC 2029	DEC 2030
Incremental Plan B19 Costs Incremental Plan B19 Costs in %	. go	*00										\$ 213.98 31.7%
Incremental 2020 LEGISLATION Costs	•											\$ 125,05
incremental 2020 LEGISLATION Casts in %	0.0	%O'										16.4%

200530131

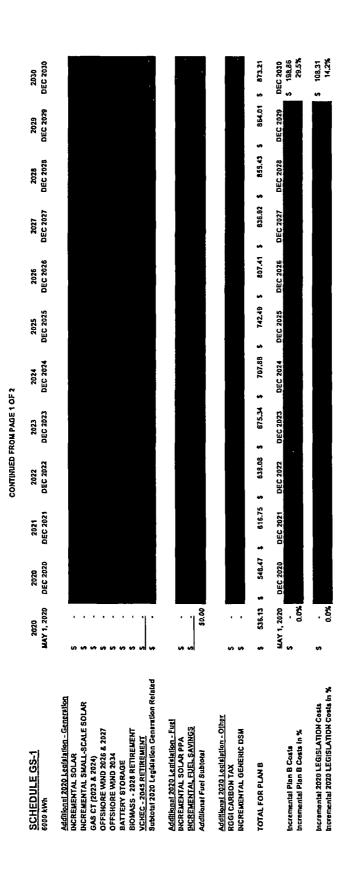
PAGE 1 OF 2

## GS-1 Plan B



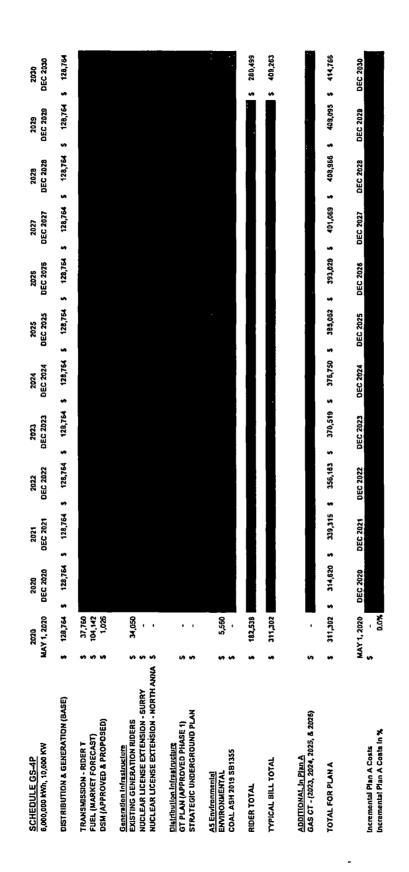
CONTINUED ON PAGE 2 OF 2

PAGE 2 OF 2



# Extraordinarily Sensitive Information Redacted

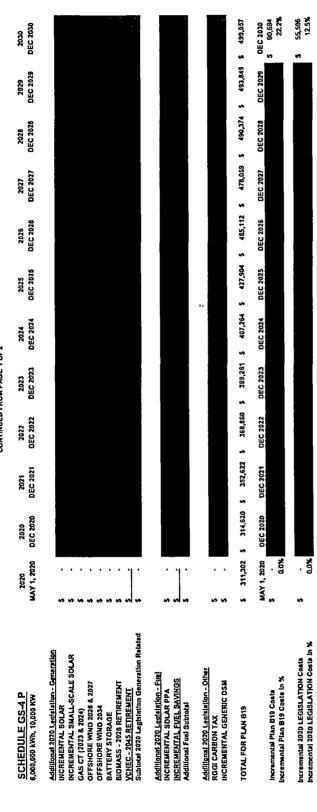
# GS-4P Plan A



PAGE 1 OF 2

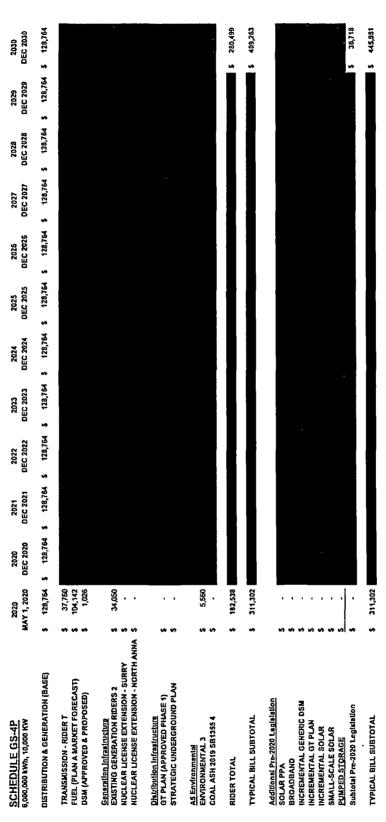
CONTINUED ON PAGE 2 OF 2

# CONTINUED FROM PAGE 1 OF 2



## GS-4P Plan B

Extraordinarily Sensitive Information Redacted



CONTINUED ON PAGE 2 OF 2

SCHEDULE GS-4P	2020		2020	2021	CONTINUE 2022	CONTINUED FROM PAGE 1 0F 2	1 OF 2 2024	2025	2028	2027	2028	2029	2030
6,000,000 kWh, 10,000 kW	MAY 1, 2020		DEC 2020	DEC 2021	DEC 2022	DEC 2023	DEC 2024	DEC 2025	DEC 2028	DEC 2027	DEC 2028	DEC 2029	DEC 2030
<u>Additonal 2020 Legialaton - Ganetaton</u> Incremental Solar	w												
INCREMENTAL SMALL-SCALE SOLAR GAS CT (2023 & 2024)	us en												
OFFSHORE WIND 2026 & 2027 OFFSHORE WIND 2014	u												
BATTERY STORAGE	• ••												
BIOMASS - 2028 RETIREMENT VCHEÇ - 2045 RETIREMENT	s s												
Subtotal 2020 Legislation Generation Related	•												Ī
Additional 2020 Legislation - Fire													
INCREMENTAL FUEL SAVINGS		· '											
Additional Fuei Sublotal	•												
Additional 2020 Legislation - Other	,												
RGGI CARBON TAX INCREMENTAL GENERIC DSM	u u	, ,											
TOTAL FOR PLAN B	3	\$ 205'1	314,620	311,302 \$ 314,620 \$ 352,622 \$	\$ 368,320 \$	\$ 388,241 \$	\$ 406,004	\$ 424,545	405,004 \$ 424,545 \$ 460,871 \$	\$ 472,059	472,059 \$ 484,895 \$	\$ 487,987 \$	\$ 491,901
	MAY 1, 2020		DEC 2020	DEC 2021	DEC 2022	DEC 2023	DEC 2024	DEC 2025	DEC 2028	DEC 2027	DEC 2028	DEC 2029	DEC 2030
Incremental Plan B Costs In %	40	0.0%											\$ 82,638 20.2%
Incremental 2020 LEGISLATION Costs in % incremental 2020 LEGISLATION Costs in %	so,	0.0%											\$ 45,920 10,3%

## **MYERS APPENDIX B**

## Myers Appendix B Table of Contents

## Responses to Data Requests and Interrogatories (Public Version - Confidential Information Redacted)

Staff Interrogatory 2-39	J.
Staff Interrogatory 2-40	2
Staff Interrogatory 2-43	4
Staff Interrogatory 2-44	6
Staff Interrogatory 2-45	9
Staff Interrogatory 2-46	12
Staff Interrogatory 2-47	15
Staff Interrogatory 16-151 (Confidential Information Redacted from Attachment)	17
Staff Interrogatory 16-153	19
Staff Interrogatory 16-154	23
Staff Interrogatory 16-155	25
Staff Interrogatory 16-156	26
Staff Interrogatory 20-185	29
Staff Interrogatory 20-187	31
Staff Informal Data Request 5-1	33
Staff Informal Data Request 5-2	35
Company Reconciliation of May 5, 2020 Investor Presentation (Confidential Information Redacted)	39

The following response to Question No. 39 of the Second Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on May 19, 2020, was prepared by or under the supervision of:

Robert J. Trexler
Director - Regulation
Virginia Electric and Power Company

#### Question No. 39

Please reference the Company's Typical Residential Bill Analysis presented in Figure 2.5.1 and Virginia Addendum 1, as supplemented on May 14, 2020. Please confirm that the Company allocated costs for all generation resources, including energy storage, using Factor 1, which is the Company's Average and Excess cost allocator. Please identify the cost allocators used for all non-generation costs contained in Virginia Addendum 1.

## Response:

Yes, the Company allocated costs for all generation resources, including energy storage, using Factor 1, which is the Company's Average and Excess cost allocator. Please see the Company's response to Staff Informal Set 1-1, specifically Attachment Staff Informal Set 1-1 (01) ES for the allocation factors used for both generation and non-generation costs.

The following response to Question No. 40 of the Second Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on May 19, 2020, was prepared by or under the supervision of:

Paul B. Haynes
Director - Regulation
Virginia Electric and Power Company

As it pertains to legal matters, the following response to Question No. 40 of the Second Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on May 19, 2020, was prepared by or under the supervision of:

Sarah R. Bennett McGuireWoods LLP

## Question No. 40

Please provide the historic cost allocation percentage assigned to the residential class using Factor 1 in each year for cases filed with the Commission for the period 2011 through 2020. For example, based on the pending 2020 Rider E case (PUR-2020-00003), the Factor 1 residential class cost allocation is currently 58.31%. Please provide the corresponding Factor 1 residential class cost allocation percentage by year for the 2011 through 2020 period and the 10-year average allocation percentage for the 2011 through 2020 period.

#### Response:

The Company objects to this request as not relevant or reasonably likely to lead to the production of admissible evidence in this proceeding, as integrated resource plan proceedings focus on future resource planning, not on historical cost allocation. Notwithstanding and subject to this objection, the Company provides the following response:

Please refer to Attachment Staff Set 02-40 (PBH).

## VA Juris Residential Class Factor 1 For Cases Filed with the Commission During 2011-2020

		Source Docket No.
2010 Factor 1	55.6422%	PUE-2011-00067
2011 Factor 1	55.6416%	PUE-2012-00071
2012 Factor 1	55.4795%	PUE-2013-00061
2013 Factor 1	53.0347%	PUE-2014-00051
2014 Factor 1	56.1717% *	PUE-2015-00060
2015 Factor 1	58.1031%	PUE-2016-00062
2016 Factor 1	55.6956%	PUR-2017-00073
2017 Factor 1	55.2007%	PUR-2018-00086
2018 Factor 1	58.3146%	PUR-2019-00088
2019 Factor 1	55.2640%	Pending Docket No.
Average Factor 1	55.8548%	

<sup>\*</sup> Corrected in PUE-2016-00062

The following response to Question No. 43 of the Second Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on May 19, 2020, was prepared by or under the supervision of:

Robert J. Trexler
Director – Regulation
Virginia Electric and Power Company

As it pertains to legal matters, the following response to Question No. 43 of the Second Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on May 19, 2020, was prepared by or under the supervision of:

Sarah R. Bennett McGuireWoods LLP

### Question No. 43

Please provide a Typical Residential Bill Analysis in the same format as the analysis presented in Figure 2.5.1 and Virginia Addendum 1, as supplemented on May 14, 2020, for each of Plans C and D. Please provide all supporting workpapers in Microsoft Excel format with formulas intact. Please prepare such Typical Residential Bill Analysis using each of the following residential cost allocation percentages:

- (a) The percentages used in the Typical Residential Bill Analysis included the 2020 IRP;
- (b) The 58.31% from the pending 2020 Rider E case (PUR-2020-00003); and
- (c) The average historic residential cost allocation percentage (for the 2011 through 2020 period).

#### Response:

The Company objects to this request because it would require original work. The Company also objects to this request because the Company has provided the workpapers for its residential bill analysis in electronic format with formulas intact, as requested by Staff. Rule 260 of the Commission's Procedural Rules provides that where "the burden of deriving or ascertaining the response is substantially the same for one entity as for the other, a response is sufficient if it (i) identifies by name and location all records from which the response may be derived or ascertained; and (ii) tenders to the inquiring party reasonable opportunity to examine, audit, or

inspect the records." Finally, the Company objects to the premise of subpart (c) of this request because it is based on an unsupported assumption that future rate projections should be based on historical allocation percentages. Notwithstanding and subject to these objections, and pursuant to 5 VAC 5-20-260, the Company provides the following response:

Plan B and Plan C are the same for the first 10 years of the 2020 Plan, so the projected bill analysis for Plan B would be substantially the same for Plan C. Furthermore, Plan B<sub>19</sub> and Plan D are the same for the first 10 years, so the projected bill analysis for Plan B<sub>19</sub> would be substantially the same for Plan D. See the Company's response to Staff Informal Set 1-1 and Staff Informal Set 2-1, specifically, Attachment Staff Informal Set 1-1 (01) ES and Attachment Staff Informal Set 2-1 (01) ES. These provide the model with formulas intact for Plan B and Plan B<sub>19</sub>, respectively.

The following supplemental response (dated July 13, 2020) to Question No. 44(a), (b), and (c) of the Second Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on May 19, 2020, was prepared by or under the supervision of:

Matthew J. Williams Supervisor, Fixed Assets Dominion Energy Services, Inc.

Paul M. McLeod Manager, Regulation Dominion Energy Services, Inc.

Question No. 44(a), (b), and (c)

Please respond to the following, in Microsoft Excel format with formulas intact:

- (a) Provide a quantification of the first quarter 2019 charges to expense associated with the early retirements of electric generation units, on both a system and Virginia jurisdictional basis;
- (b) Provide supporting calculations for the charges to expense quantified in response to part a of this interrogatory, by electric generation unit;
- (c) Quantify the remaining net book value of each electric generation unit shown in the response to part b to this interrogatory after the charges to expense included in part a to this interrogatory;

#### Response:

Subject to the Hearing Examiner's Ruling dated July 8, 2020, the Company provides the following response:

See Attachment Staff Set 02-44 (MJW, PMM).

9
7
7
÷
=
72
2
×
₩.
ĕ
m
•
⋖
53
댔
-
ro
-5
J
~
ď
~
=
ö
Ξ.

Amounts to write off							
	Gross Plant	Accum Depr	Net Plant	CWIP	Net Plant and CWIP	2019 VA Factor 1	VA Jurisdiction
POSS 3	43,954,814.48	41,638,850.17	2,315,964.31	778,967.56	3,094,931.87	80.8765%	2,503,072.58
POSS 4	66,242,768.59	55,337,199.16	10,905,569.43	749,158.64	11,654,728.07	80.8765%	9,425,936.14
POSS 5	240,356,327.84	170,075,819.40	70,280,508.44	218,512.26	70,499,020.70	80.8765%	57,017,140.47
вгето 3	38,158,460.84	22,983,323.05	15,175,137.79	•	25,175,137.79	80.8765%	12,273,120.31
Bremo 4	58,125,275.76	33,432,086.72	24,693,189.04	•	24,693,189.04	80.8765%	19,970,987.03
Chesterfield 3	26,166,286,38	25,920,434.42	245,851.96	•	245,851.96	80.8765%	198,835.45
Chesterfield 4	30,549,372.29	22,285,882.35	8,263,489.94	•	8,263,489.94	80.8765%	6,683,221.44
Meck 1	17,709,945.17	5,211,587.28	12,498,357.89	•	12,498,357.89	80.8765%	10,108,234.42
Meck 2	17,337,042.58	5,214,176.30	12,122,865.28	•	12,122,866.28	80.8765%	9,804,549.95
Bell 1	54,241,370.55	14,682,805.25	39,558,564.30	•	39,558,564.30	80.8765%	31,993,582.25
Bell 2	18,049,838.12	3,566,784.30	14,483,053.82	•	14,483,053.82	80.8765%	11,713,387.02
Pitt 1	33,507,112.72	11,608,025.25	21,899,087.47	•	21,899,087.47	80.8765%	17,711,215.48
Unit Specific Write-Off	644,398,615.32	411,956,974.65	232,441,640.67	1,746,538.46	234,188,279.13		189,403,283.57
Сомтол	į	ć					
Pitt Common	PIS 19 577 745 67	ACC UED 2 828 658 63	riet 16 749 087 04	י ראון	16.749 087.04	80.8765%	13 546.075.38
Chesterfold Common	EE CDV 165 9	5 957 840 07	578 657 26	41 900 70	620.552.46	80.8765%	501.881.13
Possum Point Common	37 282 352 94	10.136.538.29	27.145.814.65	10.149.993.78	37,295,808.43	80.8765%	30,163,544.50
Meck Common	11.064.366.95	2,603,261,72	8.451.105.23	•	8,461,105,23	80.8765%	6,843,045.77
Bremo Common	40,998,653,45	21,676,167,34	19,322,486.11	,	19,322,485.11	80.8765%	15,627,350.48
Bell Common	8,832,013.69	2,045,233.81	6,786,779.88	2,590,763.49	9,377,543.37	80.8765%	7,584,228.86
Total Common Write-Off	124,286,625.03	45,242,699.85	79,043,925.18	12,782,657.47	91,826,582.65		74,265,126.11
2-44c							
Assets to be kept							
Chesterfield Unit 3	40,739,808.06	28,519,546.50	12,220,261.56	•	12,220,261.56	80.8765%	9,883,319.84
Chesterfield Unit 4	60,996,717.34	32,637,912.72	28,358,804.62	•	28,358,804.62	80.8765%	22,935,608.62
Possum Point Unit 3	2,395,950.96	1,851,735.57	544,215.39	•	544,215.39	80.8765%	440,142.36
Possum Point Unit 5	5,274,291.55	2,197,025.85	3,077,265.70	ı	3,077,265.70	80.8765%	2,488,784.79
Bremo (land)	444,108.52	•	444,108.52	•	444,108.52	80.8765%	359,179.43
Mecklenburg (land)	358,386.00	•	358,386.00	٠	358,386.00	80.8765%	289,850.05
Pittsylvanla (land)	3,628,088.00	•	3,628,088.00	•	3,628,088.00	80.8765%	2,934,270.59
Total Assets Kept	113,837,350.43	65,206,220.64	48,631,129.79	•	48,631,129.79		39,331,155.68

The following response to Question No. 44(e) of the Second Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on May 19, 2020, was prepared by or under the supervision of:

Robert J. Trexler
Director – Regulation
Virginia Electric and Power Company

Question No. 44(e)

Please respond to the following, in Microsoft Excel format with formulas intact:

(e) Explain whether the impact to a typical residential customer of the charges to expense quantified in response to part a of this interrogatory is included in the Typical Residential Bill Analysis presented in Figure 2.5.1 and Virginia Addendum 1, as supplemented on May 14, 2020.

#### Response:

The electric generation units addressed in this question are base rate cost of service items and are therefore part of base rates in the bill analysis. In the residential bill analysis, no changes to base rates were modeled as noted in Footnote 1.

The following supplemental response (dated July 13, 2020) to Question No. 45(a), (b), and (c) of the Second Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on May 19, 2020, was prepared by or under the supervision of:

Matthew J. Williams Supervisor, Fixed Assets Dominion Energy Services, Inc.

Paul M. McLeod Manager, Regulation Dominion Energy Services, Inc.

Question No. 45(a), (b), and (c)

Please respond to the following, in Microsoft Excel format with formulas intact:

- (a) Provide a quantification of the first quarter 2020 charges to expense associated with the early retirements of electric generation units, on both a system and Virginia jurisdictional basis;
- (b) Provide supporting calculations for the charges to expense quantified in response to part a of this interrogatory, by electric generation unit;
- (c) Quantify the remaining net book value of each electric generation unit shown in the response to part b to this interrogatory after the charges to expense included in part a to this interrogatory;

#### Response:

Subject to the Hearing Examiner's Ruling dated July 8, 2020, the Company provides the following response:

See Attachment Staff Set 02-45 (MJW, PMM).

2020 Q1 Charges - Abandoned Plants

2-45a/b

Write-off of assets associated with the abandonment of Chesterfield 5-6 and Yorktown 3. Note this does not include ARC assets.

Amounts to write off							
	Gross Plant	Accum Depr	Net Plant	CWIP	Net Plant and CWIP	2019 VA Factor 1	VA Jurisdiction*
Chesterfield 3	40,287,980.62	28,509,217.82	11,778,762.80	•	11,778,762.80	80.8765%	9,526,251.10
Chesterfield 4	60,857,027.07	24,890,907.67	35,966,119.40	•	35,966,119.40	80,8765%	29,088,138.56
Chesterfield 5	157,849,441.24	162,204,170.57	95,645,270.67	1,704,966.09	97,350,236.76	80.8765%	78,733,464.23
Chesterfield 6	721,297,815.45	348,616,645.96	372,681,169.49	3,090,793.66	375,771,963.15	80.8765%	77,112,119,505
Yorktown 3	233,028,833.42	172,903,330,85	60,125,502.57	622,442.69	60,747,945.26	80.8765%	49,130,811.95
Unit Specific Write-Off	1,313,321,097.80	737,124,272.87	576,196,824.93	5,418,202.44	581,615,027.37		470,389,877.61
Cammon							
	S.G	Acc Dep	Ret	CWIP	Total		
Yarktown Common	86,149,339,33	54,409,899.61	31,739,439.72	201,351.41	31,940,791.13	80.8765%	25,832,593.94
Chesterfield Common	292,194,681.82	130,429,539.00	161,765,142.82	4,467,417.35	166,232,560.17	80.8765%	134,443,076.53
Tatal Common Write-Off	378,344,021.15	184,839,438.61	193,504,582.54	4,668,768.76	198,173,351.30		160,275,670.46
	1,691,665,118.95	921,963,711.47	769,701,407.48	10,086,971.20	779,788,378.68		630,665,548.08
Chesterfield wet-to-dry asset	104,557,312.03	12,906,620.81	91,650,691.22	•	91,650,691.22	80.8765%	74,123,871.29
2-4\$c							
Assets to be kept							
Chesterfield Unit 3	89,916.44	75,175.02	14,741.42	•	14,741.42	80.8765%	11,922.34
Chesterfield Unit 4	98,213.44	67,217,38	30,996,08	1	30,996,06	80.8765%	25,068,53
Chesterfield Unit S	6,991,149.44	2,243,786.62	4,747,362.82	•	4,747,362.82	80.8765%	3,839,500.89
Chesterfield Unit 6	1,009,714.92	361,862.75	647,852.17	•	647,852.17	80.8765%	523,960.16
Yorktown	1,510,240.30	247,124.14	1,263,116.16	•	1,263,116.16	80.8765%	1,021,564.14
Total Assets Kept	9,699,234.54	2,995,165.91	6,704,068.63	•	6,704,068.63		5,422,016.06

\*A cost of service study has not been prepared for the 2020 test period. The VA jurisdictional charges were estimated using the 2019 VA Factor 1.

The following response to Question No. 45(e) of the Second Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on May 19, 2020, was prepared by or under the supervision of:

Robert J. Trexler
Director – Regulation
Virginia Electric and Power Company

Question No. 45(e)

Please respond to the following, in Microsoft Excel format with formulas intact:

(e) Explain whether the impact to a typical residential customer of the charges to expense quantified in response to part a of this interrogatory is included in the Typical Residential Bill Analysis presented in Figure 2.5.1 and Virginia Addendum 1, as supplemented on May 14, 2020.

## Response:

The electric generation units addressed in this question are base rate cost of service items and are therefore part of base rates in the bill analysis. In the residential bill analysis, no changes to base rates were modeled as noted in Footnote 1.

The following supplemental response (dated July 13, 2020) to Question No. 46(a) and (b) of the Second Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on May 19, 2020, was prepared by or under the supervision of:

Matthew J. Williams Supervisor, Fixed Assets Dominion Energy Services, Inc.

Paul M. McLeod Manager, Regulation Dominion Energy Services, Inc.

## Question No. 46(a) and (b)

Please respond to the following, in Microsoft Excel format with formulas intact:

- (a) Provide a quantification of the first quarter 2019 charges to expense associated with the early retirements of automated meter reading electric distribution service meters, on both a system and Virginia jurisdictional basis;
- (b) Quantify the remaining net book value of the automated meter reading electric distribution service meters after the charges to expense included in part a to this interrogatory;

#### Response:

Subject to the Hearing Examiner's Ruling dated July 8, 2020, the Company provides the following response:

- a. All automated meter reading (AMR) electric distribution service meters were determined in Virginia to be abandoned in the first quarter of 2019. The amount of plant in service written off is attached in Attachment Staff Set 02-46 (MJW, PMM).
- b. All AMR meters were charged to expense in the first quarter of 2019. There is no remaining net book value of meters in Virginia.

2
횰
~
AM
Ped
둳
Ą
Ş
Fact.
ð
2019

2-46					
Amounts to write off	Çoz	Reserve	Net Book Value	2019 VA Factor 99	VA Jurisdiction .
METER, 1 PHASE: 0289	214,372,788.82	125,981,817.18	88,330,971.64	90.5120%	80,004,435.25
METER, 3 PHASE~INC DEMAND OR TAPE: 0308	126,944,568.71	67,548,101.69	59,396,467.02	90,5120%	53,760,930.23
NON-UNITIZED:	1,977,718.94		1,977,718.94	90,5120%	1,790,072.97
PULSE INITIATOR: 1699	383,151.90	263,681.46	119,470.44	90.5120%	108,135.08
RELAY - ISOLATION: 1197	6,805.18	570.41	6,235.77	90,5120%	5,644.12
TIME SWITCH/PHOTOELECTRIC RELAY: 1069	130,563.48	101,747.94	28,815.54	90.5120%	26,081.52
Electric Distribution System-VA	343,815,598.03	193,895,918.68	149,919,679.35	90.5120%	135,695,300.18
CWIP			2,067,884.12	90.5120%	1,871,683.27
Other assets - purchases/upgrades			8,400,000.00	90.5120%	7,603,008.00
Total AMR write-off	343,815,598.03	193,895,918.68	160,387,563.47	90.5120%	145,169,991.45

All AMR meter assets within FERC 370 in Virginia were abandoned

The following response to Question No. 46(d) of the Second Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on May 19, 2020, was prepared by or under the supervision of:

Robert J. Trexler
Director – Regulation
Virginia Electric and Power Company

#### Question No. 46(d)

Please respond to the following, in Microsoft Excel format with formulas intact:

(d) Explain whether the impact to a typical residential customer of the charges to expense quantified in response to part a of this interrogatory is included in the Typical Residential Bill Analysis presented in Figure 2.5.1 and Virginia Addendum 1, as supplemented on May 14, 2020.

#### Response:

The AMR meters addressed in this question are base rate cost of service items and are therefore part of base rates in the bill analysis. In the residential bill analysis, no changes to base rates were modeled as noted in Footnote 1.

The following response to Question No. 47 of the Second Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on May 19, 2020, was prepared by or under the supervision of:

Emilia L. Catron Regulatory Analyst II Virginia Electric and Power Company

As it pertains to legal matters, the following response to Question No. 47 of the Second Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on May 19, 2020, was prepared by or under the supervision of:

Sarah R. Bennett McGuireWoods LLP

#### Question No. 47

Please provide both the average (mean) residential customer usage per monthly bill and the median residential customer usage per monthly bill for the years 2000, 2005, 2010, 2015, 2016, 2017, 2018, and 2019.

## Response:

The Company objects to this request because calculating median residential customer usage requires original work, as the Company has not made these calculations. The Company also objects to this request as not relevant or reasonably likely to lead to the production of admissible evidence in this proceeding because neither average usage or median residential customer usage were used in the preparation of this 2020 Plan. Notwithstanding and subject to these objections, the Company provides the following response:

Please refer to Attachment Staff Set 02-47 (ELC) for the average residential customer usage per monthly bill for the years requested.

## **Residential Class Average Monthly Usage for Selected Years**

Year	Bills	Total kWh	Average Usage
2000	21,168,390	23,911,613,001	1,130
2005	23,253,721	28,331,091,000	1,218
2006	23,681,136	27,038,737,000	1,142
2010	24,678,659	30,803,670,000	1,248
2015	25,807,456	29,265,953,000	1,134
2016	26,078,517	28,624,379,996	1,098
2017	26,354,006	28,021,965,999	1,063
2018	26,645,871	30,409,802,002	1,141
2019	26,935,671	29,801,055,999	1,106

The following response to Question No. 151 of the Sixteenth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on August 4, 2020, was prepared by or under the supervision of:

John E. Everhart Manager, Finance & Business Services Dominion Energy Services, Inc.

#### Question No. 151

Please reference Dominion Energy, Inc.'s July 5, 2020 Investor update presentation at page 9 which identifies up to \$55 billion of net zero supportive growth capital investment from 2020 through 2035. Please respond to the following:

- (a) Quantify the Dominion Energy Virginia investments included in the \$55 billion, by investment type (e.g., off-shore wind, solar, battery storage, pumped storage, nuclear relicensing, etc.) and by year.
- (b) Identify which Alternative Plan included in the 2020 IRP is consistent with the projected capital investments identified in part (a) to this interrogatory.

#### Response:

- (a) Only the \$47 billion amount labeled "Zero-carbon generation/storage" on page 9 of the July 5, 2020 investor presentation relates to Dominion Energy Virginia. See Attachment Staff Set 16-151 (JEE) CONF for the requested information.
  - Attachment Staff Set 16-151 (JEE) CONF contains confidential information as indicated, and is being provided pursuant to the protections set forth in 5 VAC 5-20-170, the Hearing Examiner's Protective Ruling and Additional Protective Treatment for Extraordinarily Sensitive Information dated May 6, 2020, any other protective order or ruling that may be issued for confidential or extraordinarily sensitive information in this proceeding, and the Agreements to Adhere executed pursuant to any such orders or rulings.
- (b) Alternative Plans B and C from the 2020 Plan are consistent with the projected capital investments identified in subpart (a).

•	6					±	-	-	¥	-	Σ	z	0	6	0	æ	s	-
-		,		1		1												
1 Dominion Energy Virginia 2 Capital Spending Summary												•						
3 For Years Pre-2020 - 2035 4 (\$ in Millions, 100% Total System)												-	Confi	fential Inforr	Confidential Information Highlighted in Yellow	ghted in Yeli	<b>86</b>	
	IRP																	
7	Plans B & C MW	Pre 2020	2020	2021 2	2022 20	2023 2024	4 2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	202-0202
8 Commercial Offshore Wind - Phase 1 -Stage 1	880																	\$2,642
	88																	2,695
11 CVOW Pilot	77																	303 303
	2,640																	9,180
13 Offshore Wind Consolidated	262'5																	17,494
14 Ring-fence Solar	-																	1,669
15 US-3 & US-4 Solar	340																	8 5
16 Utility Scale - Generic Solar	0996																	1001
10 Cale Ceneric Solar	217.01																	18,627
Sold Chisolinated	ET/'07																	
19 Storage: SWVA Pumped Storage	300																	2,900
<u>v.                                    </u>	1,455																	7,19,5
21 Storage Consolidated	1,755																	790
23 Subtotal Soler, Wind & Storage	17,762																	\$42,948
1																		-
24 Nuclear Subsequent Ucense Renewal (SLR)																	•	3,484
26 Total Zero Carbon Generation/Storage - Capital	17,762																	\$46,432
12 82																	/	
57 57																\	\	
Dominion Fronce						•	#	1	. Inio									
31 Industry-leading clean energy profile	nerav profile							Energy.	rgy.							\		
														\	\			
34		Z	NET ZERO	ERO									\	\				
	•		)	) .	•							\	\					
3/	carbon and metnane emission	na me	tnane	emissi	ya suc	s by zusu					•	\						
39		100		Oceanit	TOTAL STATE	<b>高温度</b>	Control of the Control	Sim line	Ellen a									
The service of the se	generation (MM				nesses		0202	0.0551		/	\				•			
			֓֟֟ ֓֞֞֞֞֓֓֓֓֓֞֓֓֓֓֞֓֓֓֓֓֓֓֓֓֓֓֓֞֝֓֓֓֓֞֝֓֓֓֓֡	-	Immediate	$\overline{}$	Zero-carbon Up to ~\$47B	. Us to	\$47B	<b>\</b>								
		zero-carban	pou		50%		ration/storag											
44	33500				A	)	replacement	Up to "\$6#	49¢									
.,.		-	and the second of				RNG	Up to ~\$2B	-\$2B									M`
48							Net zero	1	1									ſΕ
csp	nukas) 🔯 Iomea	rbon (natural	î	Corrent Corrent	Pro forms	<b>2</b> 71 _	supportive growth capital	٥	~\$55B									RS
SI . Other							Codel sales, before	1	l r									A
25	red between the property of the section of the sect	Security of	Designation and the second	and the contract of C	de l'organisme	Į.			6	اسموا								PI

The following response to Question No. 153 of the Sixteenth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on August 4, 2020, was prepared by or under the supervision of:

Karim Siamer
Lead Economist,
Load Research and Forecast
Dominion Energy Services, Inc.

#### Question No. 153

Please reference the response to Staff Informal Data Request Set 5, Question No. 2(2) which states that "0.4% is the 15-year Virginia residential kWh sales Compound Annual Growth Rate ("CAGR"). It is calculated over the period 2020 to 2035." Please respond to the following:

- (a) Identify the source of the forecasted residential CAGR of 0.4%. Specifically, explain whether the forecasted residential CAGR is sourced from the Company's internal load forecast, a third-party forecast, or some other source;
- (b) Provide all supporting calculations for the 0.4% residential CAGR, in Microsoft Excel format with formulas intact;
- (c) Provide a narrative describing the methodology used to develop the 0.4% residential CAGR; and
- (d) Provide the forecast supporting the 0.4% residential CAGR, in Microsoft Excel format with formulas intact.

## Response:

- a) The 0.4% forecasted residential CAGR is sourced from the Company's 2020 internal forecast.
- b) See Attachment Staff Set 16-153 (KS).
- c) See the Company's response to Appalachian Voices Set 2-17.
- d) See Attachment Staff Set 16-153 (KS).

## Virginia (Dominion LSE) RESIDENTIAL SALES (GWh)

Year	Residential	CAGR
2020	30,016	
2021	30,162	
2022	30,460	
2023	30,805	
2024	31,276	
2025	30,726	
2026	30,797	
2027	31,001	
2028	31,263	
2029	31,176	
2030	31,240	
2031	31,293	
2032	31,438	
2033	31,396	]
2034	31,597	
2035	31,764	0:4%

DC Contribution											<b>新教育2:6%</b>
CAGR (15-YR)											0.4%
Non-DCNon-residentials	27,243 27,243 27,978	27,919	28,469	28,680	28,8/9	28,325	28,227	28,331	28,346	28,308	28,338
CAGR (15-YR)											3.1%
Non-residential services of the services of th	39,162 41,208 43,479	45,040	48,708	50,459	52,203 53,135	54,305	55,419	56,705	57,639	58,491	29,307

		_										_				
Commercial wio	19,537	19,801	20,460	71,277	21,239	22,130	21,966	22,154	22,326	21,978	21,854	21,762	21,862	21,874	21,870	21,917
Datacenters	11,114	12,486	<b>№</b> 6′ET	105'51	17,121	18,663	662,02	51,779	£7£'£Z	24,665	086'57	261'22	28,374	29,293	30,182	696'0E
* Industrials	110'2	6,875	6,783	6,700	6,680	6,516	6,503	6,526	6,553	6,490	6,471	6,465	6,469	6,472	5,438	6,421
A Commercial .	30,651	32,287	34,425	36,779	098'88	40,793	42,205	43,933	45,650	46,644	47,834	48,954	50,236	21,167	52,053	52,885
Residential	30,016	30,162	30,460	30,805	31,276	30,726	30,797	31,001	31,263	31,176	31,240	31,293	31,438	31,396	31,597	31,764
Year	2020	707	2022	2023	2024	2025	9707	2027	2028	2029	0£0₹	2031	2032	2033	2034	2035

Virginia (Dominion LSE) SALES (GWh) BY CUSTC

CAGR (15-YR)

Virginia (Dominion LSE) SALES (GWh) BY CUSTOMER CLASS

80,335 82,122 84,539 87,298 89,447 91,149 92,708 94,710 95,775 99,017 100,082 101,719 102,505 103,664

Commercial Wo	<b>机工艺机型</b>	19,537	19,801	20,460	27,277	21,239	22,130	21,966	22,154	32,326	876,12	21,854	21,762	21,862	21,874	21,870	71,917
Datacenters	6.000000000000000000000000000000000000	11,114	12,486	13,964	15,501	17,121	18,663	20,239	21,779	23,323	24,666	25,980	27,192	28,374	29,293	30,182	30,969
Total	門。如此此	80,355	82,122	84,539	87,298	89,447	91,149	92,708	94,710	96,795	527,725	710'66	100,082	101,719	102,505	103,664	104,570
Sales	Resale, Z	1,473	1,481	1,495	1,512	1,533	1,546	1,563	1,580	1,600	1,510	1,524	1,540	1,657	1,666	1,679	1,691
Suret	La Lighting	251	250	248	246	244	242	240	238	927	234	233	231	230	877	722	222
Public 1	<b>新型器等35</b> 点	10,952	11,067	11,128	11,256	11,354	11,326	11,400	11,432	11,494	11,569	11,615	11,499	11,689	11,576	11,671	11,584
industrial (m		7,011	6,875	6,783	6,700	6,680	6,516	6,503	6,526	6,553	6,490	6,471	6,465	6,469	6,472	6,438	6,421
Commercial		30,651	32,287	34,425	36,779	38,360	40,793	42,205	43,933	45,650	46,644	47,834	48,954	50,236	51,167	52,053	52,885
Residential		30,016	30,162	30,460	30,805	31,276	30,726	30,797	31,001	31,263	31,176	31,240	31,293	31,438	31,396	31,597	31,764
Year	<b>张</b>	2020	2021	2022	2023	2024	2025	2026	2027	2028	5029	2030	2031	2032	2033	2034	2035

### Virginia Electric and Power Company Case No. PUR-2020-00035 Virginia State Corporation Commission Staff Staff Set 16

As it pertains to forecasts, the following response to Question No. 154 of the Sixteenth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on August 4, 2020, was prepared by or under the supervision of:

Karim Siamer Lead Economist, Load Research and Forecast Dominion Energy Services, Inc.

As it pertains to the residential bill analysis, the following response to Question No. 156 of the Sixteenth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on August 4, 2020, was prepared by or under the supervision of:

Robert J. Trexler Director - Regulation Dominion Energy Virginia

### Question No. 154

Please reference the response to Staff Informal Data Request Set 5, Question No. 2(3) which states that "2.5% is the 15-year Virginia GS-4 kWh sales CAGR. It is calculated over the period 2020 to 2035. Projected data center growth is the reason why GS-4 kWh sales are projected to grow faster than residential sales." Please respond to the following:

- (a) Identify the source of the forecasted GS-4 CAGR of 2.5%. Specifically, explain whether the forecasted GS-4 CAGR is sourced from the Company's internal load forecast, a third-party forecast, or some other source;
- (b) Provide all supporting calculations for the 2.5% GS-4 CAGR, in Microsoft Excel format with formulas intact;
- (c) Provide a narrative describing the methodology used to develop the 2.5% GS-4 CAGR; and
- (d) Provide the forecast supporting the 2.5% GS-4 CAGR, in Microsoft Excel format with formulas intact.

### Response:

- a) The 2.5% CAGR is the approximate data center growth contribution to the total non-residential jurisdictional sales 15-year CAGR. It is sourced from the Company's 2020 internal forecast. Notably, because the residential bill analysis focused only on residential customers, this CAGR was not used as part of the analysis.
- b) See Attachment Staff Set 16-153 (KS).
- c) See the Company's response to Appalachian Voices Set 2-17.
- d) See Attachment Staff Set 16-153 (KS).

### Virginia Electric and Power Company <u>Case No. PUR-2020-00035</u> Virginia State Corporation Commission Staff Staff Set 16

The following response to Question No. 155 of the Sixteenth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on August 4, 2020, was prepared by or under the supervision of:

Karim Siamer Lead Economist, Load Research and Forecast Dominion Energy Services, Inc.

### Question No. 155

Please reference the response to Staff Informal Data Request Set 5, Question No. 2(4) which states that "1.7% is the 15-year Virginia total kWh sales CAGR. It is calculated over the period 2020 to 2035." Please respond to the following:

- (a) Identify the source of the forecasted total CAGR of 1.7%. Specifically, explain whether the forecasted total CAGR is sourced from the Company's internal load forecast, a third-party forecast, or some other source;
- (b) Provide all supporting calculations for the 1.7% total CAGR, in Microsoft Excel format with formulas intact;
- (c) Provide a narrative describing the methodology used to develop the 1.7% total CAGR; and
- (d) Provide the forecast supporting the 1.7% total CAGR, in Microsoft Excel format with formulas intact.

### Response:

- a) The 1.7% total CAGR is sourced from the Company's 2020 internal forecast.
- b) See Attachment Staff Set 16-153 (KS).
- c) See the Company's response to Appalachian Voices Set 2-17.
- d) See Attachment Staff Set 16-153 (KS).

### Virginia Electric and Power Company Case No. PUR-2020-00035 Virginia State Corporation Commission Staff Staff Set 16

The following response to Question No. 156(a) of the Sixteenth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on August 4, 2020, was prepared by or under the supervision of:

Karim Siamer
Lead Economist,
Load Research and Forecast
Dominion Energy Services, Inc.

As it pertains to legal matters, the following response to Question No. 156(a) of the Sixteenth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on August 4, 2020, was prepared by or under the supervision of:

Sarah R. Bennett McGuireWoods LLP

Question No. 156(a)

Please reference the response to Staff Informal Data Request Set 5, Question No. 2(6) which states that "For the residential bill analysis, the Company attempted to represent how the [residential] allocation factor would change over time based upon the forecast that overall sales are anticipated to grow faster than sales to the residential class. These projections were based solely on kWh sales." Please respond to the following:

(a) Other than the load growth from data centers generally referenced in the response to Staff Informal Data Request Set 5, Question No. 2(3), please provide a detailed narrative explaining why "overall sales are anticipated to grow faster than sales to the residential class;"

### Response:

The Company objects to the premise of this request to the extent it attempts to limit the Company's explanation by stating "[o]ther than the load growth from data centers." Notwithstanding and subject to this objection, the Company provides the following response:

Overall sales are anticipated to grow faster than sales to the residential class because of projected data center growth. In addition, incremental residential sales growth is mostly driven by new single family homes. Single family home growth over the recent 12-month period has been modest and is expected to remain so in the foreseeable future. Currently, multifamily home

growth (which results in less energy usage compared to single family homes) surpasses single family home growth.

### Virginia Electric and Power Company Case No. PUR-2020-00035 Virginia State Corporation Commission Staff Staff Set 16

The following response to Question No. 156(b) of the Sixteenth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on August 4, 2020, was prepared by or under the supervision of:

Robert J. Trexler Director - Regulation Dominion Energy Virginia

### Question No. 156(b)

Please reference the response to Staff Informal Data Request Set 5, Question No. 2(6) which states that "For the residential bill analysis, the Company attempted to represent how the [residential] allocation factor would change over time based upon the forecast that overall sales are anticipated to grow faster than sales to the residential class. These projections were based solely on kWh sales." Please respond to the following:

(b) Explain why it is appropriate to base the forecasted decline in the residential allocation factor 1 used in the residential bill analysis solely on changes to forecasted kWh sales without considering the potential impact of changes to peak demand from 2020 to 2035.

### Response:

The Company had available a class forecast of kWh sales, but peak demand forecasts by class are not available. Accordingly, the Company assumed that class load factors would remain the same. If the class load factors remain the same, it would be reasonable to assume that the peak demands and energy sales would grow at the same rate. With these assumptions, the Company based the forecasted decline in the residential allocation factors used in the residential bill analysis on changes in the forecasted kWh sales for the residential class and the changes in the forecasted kWh sales for the remainder of the Virginia jurisdiction. Adjusting the residential sales in the residential bill analysis is appropriate in order to model these future forecasted changes in kWh sales.

### Virginia Electric and Power Company Case No. PUR-2020-00035 Virginia State Corporation Commission Staff Staff Set 20

As it pertains to forecasts, the following supplemental response (dated September 16, 2020) to Question No. 185 of the Twentieth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on August 14, 2020, was prepared by or under the supervision of:

Karim Siamer Lead Economist, Load Research and Forecast Dominion Energy Services, Inc.

As it pertains to the generation planning, the following supplemental response (dated September 16, 2020) to Question No. 185 of the Twentieth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on August 14, 2020, was prepared by or under the supervision of:

Kevin Cross
Energy Market Consultant
Virginia Electric and Power Company

As it pertains to the residential bill analysis, the following supplemental response (dated September 16, 2020) to Question No. 185 of the Twentieth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on August 14, 2020, was prepared by or under the supervision of:

Robert J. Trexler Director - Regulation Dominion Energy Virginia

### Question No. 185

Please reference the response to Staff Informal Data Request Set 2, Question No. 2, Attachment\_Staff\_Informal\_Set\_2-1\_(03)\_ES - Fuel Cost - Plans A\_B19 DG Solar Fix - GTSA Carvout.xlsx. Please provide the following for the costs included in the PPA Costs tab of the referenced attachment:

(a) Please explain why the forecasted Virginia jurisdictional kWh sales included in the Gen tab (Cells G 19 through Q19 and G38 through Q38) differ from the projected total Virginia kWh sales based of the 1.7% CAGR identified in in Staff Informal Data Request Set 5, Question No. 2.

30000300131

### Supplemental Response (dated September 16, 2020):

The forecasted sales found in the Gen tab (Cells G19 through Q19 and G38 through Q38) are based on the load modeled in the 2020 Plan which uses the PJM load forecast. The forecasted sales in the Allocation Scaling Tab (Cells C50-M50) are from internal sales projections at the jurisdictional and class level. These internal forecasts are developed because PJM does not forecast sales at the jurisdiction or class level.

### Case No. PUR-2020-00035 Virginia State Corporation Commission Staff Staff Set 20

As it pertains to forecasts, the following supplemental response (dated September 16, 2020) to Question No. 187 of the Twentieth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on August 14, 2020, was prepared by or under the supervision of:

Karim Siamer Lead Economist, Load Research and Forecast Dominion Energy Services, Inc.

As it pertains to generation planning, the following supplemental response (dated September 16, 2020) to Question No. 187 of the Twentieth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on August 14, 2020, was prepared by or under the supervision of:

Kevin Cross
Energy Market Consultant
Virginia Electric and Power Company

As it pertains to the residential bill analysis, the following supplemental response (dated September 16, 2020) to Question No. 187 of the Twentieth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on August 14, 2020, was prepared by or under the supervision of:

Robert J. Trexler
Director - Regulation
Dominion Energy Virginia

### Question No. 187

Please reference Staff Informal Data Request Set 2, Question No. 2, Attachment-\_Staff\_Informal\_Set\_2-1\_(01)\_ES - (IRP rate forecast B19 05-05-2020).xlsx, Uniform Cost Recovery - IRP and Allocation Scaling tabs. Please respond to the following:

(a) Explain why the forecasted 2020-2030 Virginia jurisdictional sales in the Uniform Cost Recovery – IRP tab (Cells D21 through N21) are different than the forecasted 2020-2030 Virginia jurisdictional sales in the Allocation Scaling tab (Cells C50 through M50).

323 E L OE BOO

(b) Did the Company rely upon different forecasts for the 2020-2030 Virginia jurisdictional sales amounts in the referenced tabs?

- (i) If so, please explain why the Company relied upon different forecasts and explain the difference between the forecasts.

### Supplemental Response (dated September 16, 2020):

- (a) The forecasted sales found on Uniform Cost Recovery IRP tab (Cells D21 through N21) are based on the load modeled in the 2020 Plan which uses the PJM load forecast. The forecasted sales in the Allocation Scaling Tab (Cells C50-M50) are from internal sales projections at the jurisdictional and class level. These internal forecasts are developed because PJM does not forecast sales at the jurisdiction or class level.
- (b) Yes. See the Company's response to part (a) of this question.

### Virginia Electric and Power Company Case No. PUR-2020-00035 Virginia State Corporation Commission Staff Informal Set 5

The following response to Question No. 1 of the Informal Fifth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on July 20, 2020, was prepared by or under the supervision of:

Robert J. Trexler
Director - Regulation
Virginia Electric and Power Company

Question No. 1

Can you please provide the sources for the following residential allocation factors and kWh sales from Attachment 1 to Staff Informal Set 2-1? If these were included in any previous Rider filings, references to where to find them in the record in those cases would suffice. Staff has been able to find the sources of the other 2018-2020 residential allocation % and kWh sales used in the bill analysis from rider filings.

1) A6 Nov Fact 3 tab:	Residential Allocation % in Cell C12
2) GT Plan tab:	Residential Allocation % in Cell E12
3) A6 Feb U tab:	Residential Allocation % in Cells C13 and D13 Residential kWh Sales in Cells C21 and D21
4) A5 C1A tab:	Residential Allocation % in Cells B13, C13, and D13
5) A5 C2A tab:	Residential Allocation % in Cells B15, C15, and D15
6) A5 C3A tab:	Residential Allocation % in Cells C15 and D15
7) A4 Input tab:	Residential Allocation % in Cells B12 and D12 through N12. kWh Sales in Cell D21
8) A6 IRP tab:	kWh Sales in Cell D42

### Response:

- 1) In the "A6 Nov Fact 3" tab, the residential allocation percentage in Cell C12 was based upon an estimated Factor 3 Revenue Requirement in 2019 for Residential Schedule 1 and the final approved jurisdictional revenue requirement for Rider E in Case No. PUR-2018-00195.
- 2) In the "GT Plan" tab, the residential allocation percentage in Cell E12 was based upon the 2018 distribution plant factor for the residential class.
- 3) In the "A6 Feb U" tab, the residential allocation percentages in Cells C13 and D13 and the residential kWh sales in C21 and D21 were based upon the compliance filings in Case Nos. PUR-2018-00042 (for Cells C13 and C21) and PUR-2019-00046 (for Cells D13 and D21).
- 4) In the "A5 C1A" tab, the residential allocation percentages in Cells B13 and C13 were based upon the compliance filings in Case Nos. PUR-2017-00129 and PUR-2018-00168, respectfully. The residential allocation percentage in Cell D13 was based on the Company's filing in Case No. PUR-2019-00201.
- 5) In the "A5 C2A" tab, the residential allocation percentages in Cells B15 and C15 were based upon the compliance filings in Case Nos. PUR-2017-00129 and PUR-2018-00168, respectively. The residential allocation percentage in Cell D15 was based on the Company's filing in Case No. PUR-2019-00201.
- 6) In the "A5 C3A" tab, the residential allocation percentage in Cell C15 was based upon the compliance filings in Case No. PUR-2018-00168. The residential allocation percentage in Cell D15 was based on the Company's filing in Case No. PUR-2019-00201.
- 7) In the "A4 Input" tab, the residential allocation percentage in Cell B12 was based upon the compliance filings in Case No. PUR-2018-00066. The residential allocation percentage in Cell D12 and the kWh sales in Cell D21 were based on the Company's draft for the filing in PUR-2020-00084 at the time the residential bill analysis was prepared. These numbers changed slightly before the Company filed its application in that proceeding. For the residential allocation percentages in Cells E12 through N12, see the "Allocation Scaling" tab, row 68.
- 8) In the "A6 IRP" tab, the kWh sales in Cell D42 was inadvertently carried over from the model used to prepare late-filed Exhibit 73 in the 2018 Plan proceeding. The number shown in Cell D42 was not used in the residential bill analysis for the 2020 Plan, has no impact on any of the other numbers within the residential bill analysis, and therefore should not have been included in the attachment.

### Virginia Electric and Power Company Case No. PUR-2020-00035 Virginia State Corporation Commission Staff Informal Set 5

The following response to Question No. 2(1) of the Informal Fifth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on July 20, 2020, was prepared by or under the supervision of:

Edmund J. Hall
Manager Energy Market Quantitative Analysis & Load Forecast
Dominion Energy Services, Inc.

### Question No. 2(1):

Looking at forecasted billing determinants in the allocation scaling tab:

1. Net metering residential kWh impact (Cells D37 through M37). Please provide support and explain what the reduction in kWh sales represents.

### Response:

The kWh sales represent the non-apartment dwelling residential net metering forecast over the next 10 years. This assumes a 6.1kW net-metered solar size per installation.

### Virginia Electric and Power Company <u>Case No. PUR-2020-00035</u> Virginia State Corporation Commission Staff Informal Set 5

The following response to Question No. 2(2), (3), and (4) of the Informal Fifth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on July 20, 2020, was prepared by or under the supervision of:

Karim Siamer Lead Economist, Load Research and Forecast Dominion Energy Services, Inc.

### Question No. 2(2), (3), and (4):

Looking at forecasted billing determinants in the allocation scaling tab:

- 2. Residential kWh sales (Cells C7 through M7). 2020 kWh sales appear to be based in Rider S (Case No. PUR-2019-00088). Then an annual growth rate of 0.40% is applied each year. Please provide support for the 0.40% annual growth rate.
- 3. GS-4 kWh sales (Cells C11 through M11). 2020 kWh sales appear to be based in Rider S (Case No. PUR-2019-00088). Then an annual growth rate of 2.50% is applied each year. Please provide support for the 2.50% annual growth rate. Why are GS-4 kWh sales projected to grow so much more than residential sales?
- 4. Total kWh sales (Cells C14 through M14), 2020 kWh sales appear to be based in Rider S (Case No. PUR-2019-00088). Then an annual growth rate of 1.70% is applied each year. Please provide support for the 1.70% annual growth rate.

### Response:

- 2. 0.4% is the 15-year Virginia residential kWh sales Compound Annual Growth Rate ("CAGR"). It is calculated over the period 2020 to 2035.
- 3. 2.5% is the 15-year Virginia GS-4 kWh sales CAGR. It is calculated over the period 2020 to 2035. Projected data center growth is the reason why GS-4 kWh sales are projected to grow faster than residential sales.
- 4. 1.7% is the 15-year Virginia total kWh sales CAGR. It is calculated over the period 2020 to 2035.

### Virginia Electric and Power Company Case No. PUR-2020-00035 Virginia State Corporation Commission Staff Informal Set 5

The following response to Question No. 2(5) of the Informal Fifth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on July 20, 2020, was prepared by or under the supervision of:

Paul B. Haynes
Director - Regulation
Virginia Electric and Power Company

### Question No. 2(5):

Looking at forecasted billing determinants in the allocation scaling tab:

5. Residential Allocation % of 55.26% (Cell D26). Please provide support. Was this residential allocation % used in a prior rider filing? If so, please identify the filing.

### Response:

Please refer to Attachment Staff Informal Set 05-02 (PBH). The 55.26% in Cell D26 of the "Allocation Scaling" tab of Staff Informal Set 02-01 (01) ES is the Baseline 2019 Class Factor 1, rounded to two digits. This factor was filed in Schedule 4 page 3 of the respective Company Witness sponsoring rate design in each of the following rider filings, which were filed on June 1, 2020:

- PUR-2020-00099, Rider B
- PUR-2020-00100, Rider GV
- PUR-2020-00101, Rider R
- PUR-2020-00102, Rider S
- PUR-2020-00103, Rider W

### Virginia Electric and Power Company <u>Case No. PUR-2020-00035</u> Virginia State Corporation Commission Staff Informal Set 5

The following response to Question No. 2(6) of the Informal Fifth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on July 20, 2020, was prepared by or under the supervision of:

Robert J. Trexler
Director - Regulation
Virginia Electric and Power Company

### Question No. 2(6):

Looking at forecasted billing determinants in the allocation scaling tab:

6. Residential Allocation % (Cells E26 through M26) are forecasted to decrease by 1.27% - 1.28% per year, based on growth in total kWh sales as compared to growth in residential kWh sales. Please explain the thinking behind this. Were changes in demand forecasted, or was this change based solely on kWh sales?

### Response:

For the residential bill analysis, the Company attempted to represent how the allocation factor would change over time based upon the forecast that overall sales are anticipated to grow faster than sales to the residential class. These projections were based solely on kWh sales.

MYERS APPENDIX B 39% ⑤ ⑥

CONFIDENTIAL (This page intentionally left blank)

### MYERS APPENDIX





## Existing 2.6GW CVOW project on-track to meet legislated approval standards

Competitive procurement/solicitation per standard procedure

Est. energy cost compares favorably to legislative benchmark

Qualifying construction start and completion dates

## 3/25 Investor Day

12MW pilot project installation to begin summer 2020

Next steps

Sub-sea survey work underway for full deployment

Submit Construction and Operation Plan to BOEM by year-end

Initial rider filing in 2022

# Leading Jones Act compliant installation vessel consortium

Equipped to handle existing and next generation turbine tech

Offtake agreements with major developers; 2023 in-service Funding to be finalized among consortium participants

### Capital

## Previous 2019-23 plan:

→ \$1.1B

Updated 2020-24 plan: \$3.5B1 ①

(2020 through 2035): ~\$88 to \$178 ② ③ Total potential investment

ted to projections and forward look

refer to page 2 for risks and uncer

### B 200000131

## Virginia solar and onshore wind



- Near-term commitment: 3,000MW by 2022
- More than 70% (2,100MW) complete
- During Q1, fourth solar rider application approved by Commission

Select legislated approval standards

"Public interest"



- Promotion of new renewable generation...and associated economic development
- Fuel-savings
- Compliance with RPS standards

 Next steps: Scaling operations to support 16 GW legislative mandate (10,000MW utility-owned)

### Previous 2019-23 plan: **→** \$3.78<sup>1</sup>

Updated 2020-24 plan:

**Total potential** \$5.5B<sup>2</sup> @ investment

(2020 through 2035): ~\$19B ⑤

<sup>&</sup>lt;sup>2</sup> Includes \$1.2 billion for PPA recovery method projects Includes \$1.4 billion for PPA recovery method projects

## Virginia energy storage



## Pumped-storage

- Engineering and environmental analysis continuing
- Projected in-service in late 2020s

## Battery-storage

16MW pilot projects approved by Commission during Q1 (~\$30M)

3/25 Investor Day

Promotion of new renewable generation...and associated "Public interest"

Select legislated approval standards

Fuel-savings

economic development

Compliance with RPS standards

Next steps: Evaluating additional deployment opportunities

Previous 2019-23 plan: \$1.0B Updated 2020-24 plan:

\$0.9B®

(2020 through 2035): Total potential investment

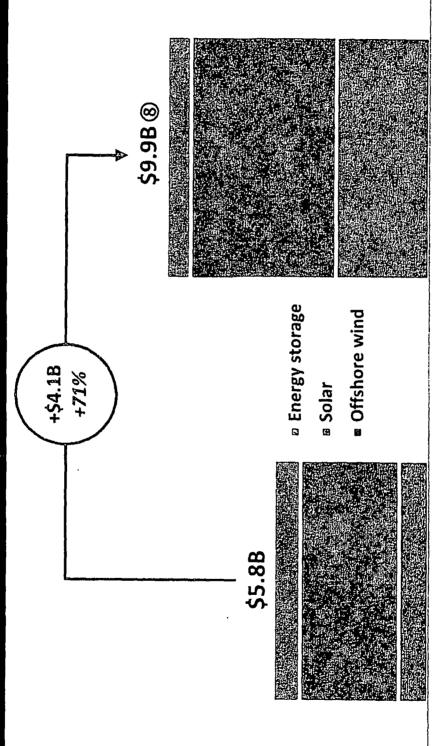
~\$7B ②

B 200050131

# Near-term capital investment opportunities

Dominion Energy Virginia





Investor day guidance 2019-2023 growth capex (OSW, solar, storage)

Updated guidance 2020-2024 growth capex (OSW, solar, storage) 8 43.000000121

# Long-term capital investment opportunities

Dominion Energy Virginia



Up to \$16B

(subject to regulatory approval)

(subject to regulatory approval)

Course Control

Up to \$43B@

Strategic undergrounding Electric transmission Nuclear relicensing

Renewable-enabling quickstart generation

Solar/onshore wind

(2.6 to 5.2GW) Offshore wind

**Energy storage** 

Grid modernization

~\$24B



Renewable energy growth capex

(2020 to 2035)

(2020 to 2030) growth capex Select other

DEV rate base est. 2019 year-end

B 442@0530131